User's Guide™

THE MAGAZINE FOR CP/M & MS-DOS COMPUTER USERS

Special Tax Issue

No. 14 $4.50

Doing Your Taxes

Review: Tax Preparation Software

Income Tax Spreadsheets

Writing Letters

Free Disk Recovery Programs

IRS
Fresno, CA 95
1984
FORM 1040
TAX
FRANCHISE TAX BOARD
STATE OF CALIFORNIA
1984

"Letter to IRS" by Sahnta Pannutti after Mary Cassatt, "The Letter", 1891.

MONTE'S WINDOW™

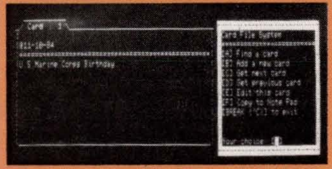
Pop Up Menus!

CALCULATOR

Full-featured business calculator. Add, subtract, multiply, divide plus a memory function and the ability to take totals direct to your program.

TAKES NO USER RAM!

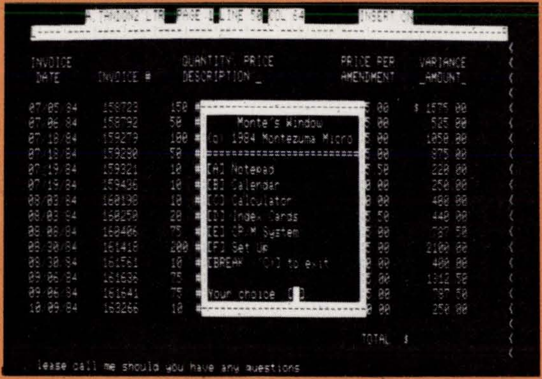
INDEX CARD FILE



What we have here is a data base manager. You can file and retrieve anything from appointments to phone numbers and more. The number of index cards is limited only by disk space!

REQUIRES

Montezuma Micro CP/M®
2.2 version 2.21+
128K RAM
TRS-80 Model 4 or 4P
8-bit Fever



```
INVOICE                  QUANTITY  PRICE          PRICE PER   VARIANCE
DATE      INVOICE #      DESCRIPTION _            AMENDMENT   _AMOUNT_

07/05/84  158723   150       Monte's Window          00    $ 1575 00
07/06/84  158792   50    (c) 1984 Montezuma Micro    00       525 00
07/18/84  159279   100                               00      1050 00
07/18/84  159280   50                                00       975 00
07/19/84  159321   10    [A] Notepad                 50       220 00
07/19/84  159436   10    [B] Calendar                00       250 00
08/03/84  160198   10    [C] Calculator              00       480 00
08/03/84  160250   20    [D] Index Cards             50       440 00
08/08/84  160406   75    [E] CP/M System             00       787 50
08/30/84  161418   200   [F] Set Up                  00      2100 00
08/30/84  161561   10    [BREAK]  (C) to exit        00       400 00
09/06/84  161636   75                                00      1312 50
09/06/84  161641   75    Your choice                 00       787 50
10/09/84  163266   10                                00       250 00

                                        TOTAL  $

lease call me should you have any questions
```

$49

Get organized! A touch of the keyboard lets **Monte's Window** put a notebook, indexed mini-database, calendar and full function calculator just a keystroke away from use right in the middle of your program. No worry about losing data. The **Window** takes care of all that automatically. The **Window** takes no user RAM space. The **Window** has no silly restrictions to limit it's usefulness. It is ready to go when you are. All this for just $49! Need additional RAM? Monte's gift to you – 64K RAM kit plus the **Window**, all for just $99!

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CALENDAR

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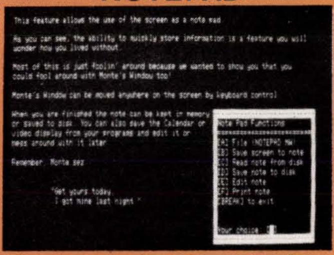
WINDOWS ON YOUR MODEL 4!

NOTEPAD



```
This feature allows the use of the screen as a note pad

As you can see, the ability to quickly store information is a feature you will
wonder how you lived without

Most of this is just foolin' around because we wanted to show you that you
could fool around with Monte's Window too!

Monte's Window can be moved anywhere on the screen by keyboard control

When you are finished the note can be kept in memory    Note Pad Functions
or saved to disk. You can also save the Calendar or
video display from your programs and edit it or         [A] File (NOTEPAD MW)
mess around with it later                               [B] Save screen to note
                                                        [C] Read note from disk
Remember, Monte sez                                     [D] Save note to disk
                                                        [E] Edit note
        "Get yours today.                               [F] Print note
         I got mine last night "                        [BREAK] to exit

                                                        Your choice
```

The entire screen is provided for your use. Simply use the arrow keys to move about. Save the note to disk! Call it back up! Print it! Edit it!

See opposite page▸▸▸▸▸▸

SAVE A BUNDLE

WITH ONE OF OUR BUNDLES

We have put together special bundles of software just in time to save you a bundle of money. Didn't you ever wonder why CP/M was so popular? The reason is the software availability. All programs (except EP) are for the Model 4/4P and have been optimized to install and run without hassle. For example, we have memory-mapped WordStar® and it runs circles around the standard version available elsewhere. We also added printer drivers for the Daisywheel II and the DMP-2100. Our CP/M® 2.2 is the best around. Read the reviews. You *know* the programs. You *know* the prices. This is the years' best value. You owe it to yourself to let these CP/M® programs and thousands of others (many in the public domain) start serving your needs.

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DataStar™
ReportStar™
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CP/M...The Software Key That Unlocks Your Model 4

CP/M is the standard 8-bit Z-80 operating system and many thousands of programs have been written to run under this system. With Montezuma Micro's CP/M you can run these programs on your Model 4/4P. Think about all those nationally known programs you've wanted to use. Programs like WordStar; dBASE II; SuperCalc; MultiPlan etc. With our version of CP/M 2.2 all those public domain programs on bulletin boards across the USA are available for free downloading. CP/M is the missing link that joins all this software to your Model 4/4P. Montezuma Micro's CP/M comes ready to use and requires no hardware modifications. This product has been awarded the best and highest ratings in the reviews and we are continuously improving it with you in mind. With our CP/M you get more than just a DOS. You get the other half of your Model 4/4P.

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Optional Hard Disk Drive Support .... $ 30

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- Full range of floppy drive support. Dual-head and/or 80 tracks.
- Optional Radio Shack hard disk support allows partitioning and selective assignment of logical drives. Easy backup routine.
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- Disk Utility Program allows fast format, backups and verifying of ours and other manufacturer's disks.
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128K MEMORY UPGRADE

Our upgrade kit includes 64K RAM, a geniune PAL chip and instructions for installation. This kit will upgrade your 64K Model 4 to 128K and allow the use of our MEMLINK program and the TRSDOS 6.x MEMDISK. Guaranteed 1 year.

A BARGAIN AT ONLY $74 Model 4
$64 Model 4P – No PAL

WHY BUY OURS?

	MONTEZUMA MICRO	RADIO SHACK
Transient Program Area (TPA)	**55K**	52K
Bytes free in MBASIC	**30,776**	18,488
Bytes free of formatted disk	**196K**	160K
64K Memory drive	**YES**	NO
Double-Side/80tk drive support	**YES**	NO
Format, read/write other CP/M formats	**YES**	NO
Communication program included	**YES**	NO
Share HD with TRSDOS/LDOS	**YES**	NO
Assign multiple drives to HD	**YES**	NO
Boots from Hard Disk (4P)	**YES**	NO
Popular terminal emulation	**YES**	NO
User defined function keys	**9**	3
Timely product support	**YES**	NO

This popular software is available for the Model 4/4P using our CP/M.

WordStar Fast memory-mapped version 3.3	$250
MailMerge Multi-purpose file merging program ...	125
SpellStar 20,000 word proof-reader on a stick	125
StarIndex Creates indices and Tables of Content...	85
DataStar Data entry and retrieval is yours	175
ReportStar Report generator and file manipulator....	150
InfoStar The above two programs	300
dBASE II with Disk Tutorial	385
CBASIC version 2.8	85
TURBO PASCAL by Borland. This is the one	45

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MONTEZUMA MICRO

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"WE KEEP YOU RUNNING"

User's Guide™

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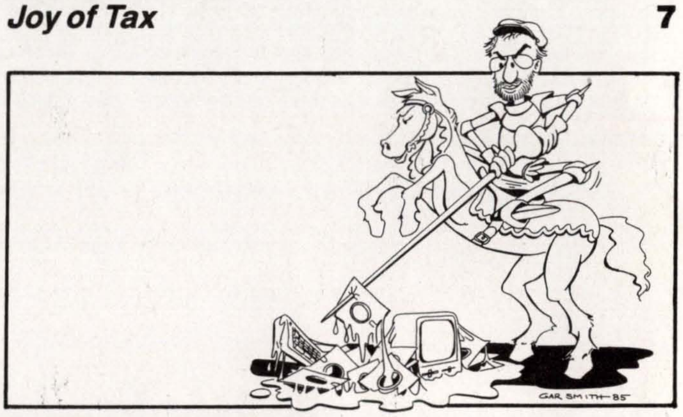

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IRS
Fresno, CA 95
1040

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Typefaces

We use `THIS typeface` to show commands and expressions you type at your keyboard, and `This Typeface` to show displayed messages.

In summaries we use *italics* along with `This typeface` to show optional parts of commands and expressions. Keywords are usually in UPPER case letters, with your words and data in Upper/lower case.

We also use the symbol ↵ to represent the standard Return key (CR or ENTER on some keyboards), and the caret symbol ^ to represent the Control key (CNTL, CTRL or ALT on some keyboards).

Nothing New

A journalist recently asked us the question "what makes CP/M users so loyal to CP/M?" The obvious answer is that people who bought CP/M computers are fond of their machines, and they want their CP/M investment to pay off in years of problem-solving and data managing.

Of course, the journalist wasn't satisfied. "Don't they feel left out of the progress software has made on sixteen-bit computers?" New things often bring about new headaches. Maybe they are simply waiting it out until the new products stabilize.

Some people care about progress only as far as it gets *them.* If it gets them something they can use for five or ten years, why replace it with something new? But we knew there were more reasons for this loyalty to CP/M.

The big attraction of most sixteen-bit programs for the IBM PC and PC-compatibles is, in the words of one cynic, "windows and color graphics." The novice public once said "give me menus" and the software industry went wild. Every new sixteen-bit program has a menu. Most new sixteen-bit programs occupy a lot of memory space, and programmers feel less hampered by memory constraints in sixteen-bit systems. But some think the lack of constraints allowed programmers to write code that was not "tight" (tight code runs faster). The 64K memory constraint kept the CP/M application programs small (tightly coded) — there are no large-scale integrated packages in the CP/M world. Many users like it that way.

There are over 2000 CP/M application programs that *already work.* They may not have color graphics and windows, but they include a lot of "vertical market" (i.e., very specific market) programs that solve specific application needs, such as medical and dental billing, dairy management, construction estimating, property management, school administration and much more.

All these areas are or will be covered by the sixteen-bit market. Many sixteen-bit programs are being converted from CP/M versions, and in some cases, the CP/M versions are faster but have less features (especially less "help" features and menus).

The typical CP/M system comes with utilities that make common operations easier to do — such as copying a file directly to the printer, saving memory images directly into disk files, and converting WordStar-coded files into regular ASCII text files in one command. CP/M is always supplied with an assembler (ASM.COM), a debugger/memory display utility (DDT.COM), and a copy/transfer/conversion utility (PIP.COM). With DDT you can examine and alter memory directly, and you can always save what you altered. The IBM PC does not provide such easy access to memory.

The free programs available in the public domain for CP/M systems are far superior to their PC/MS-DOS counterparts because most of them have been tested and debugged for years; the PC/MS-DOS versions are new and not completely debugged.

One myth that should be debunked is that the IBM PC is a step up in performance if you want to run WordStar. Fact is, nearly every CP/M machine runs a near replica version of WordStar, perhaps without color, but definitely without copy protection problems. WordStar *runs faster* on most CP/M machines than on the IBM PC. On the Osborne Vixen, WordStar runs almost twice as fast as on the PC.

So the typical CP/M computer is still a good buy. There is a lot of inexpensive, known-to-work software. It may even run faster and be able to handle more diverse applications. And if you think there's nothing new, check out the new products section each issue.

THIS IS THE COMPUTER WE WERE GOING TO INTRODUCE BEFORE YOU-KNOW-WHAT HAPPENED. ONE YEAR LATER, IT'S STILL AHEAD OF ITS TIME.

INTRODUCING THE OSBORNE VIXEN.™

The company that introduced the first portable business computer is back.

We've learned that building a $100 million corporation in a year can have its risks.

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And with all today's talk about windowing, 16- and 32-bit systems, we've noticed that the all time best-selling microcomputers are still the 8-bit Apple®s. They invite you to compare. So do we.

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- Serial *and* parallel ports let you connect the Vixen to any printer or modem.
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- 90-day warranty.

All in one neat little package that is smaller than an IBM Selectric typewriter—and about half the weight!

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Here it is: Portable, powerful, reliable and data-compatible.

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Circle 15 — reader service card.

LETTERS

ZCPR to Cache/Q, Come In, Cache/Q!

I suggest to Mr Guterman (issue 11/12 letters) the following: try using CP/M 2.2 without ZCPR, load Cache/Q, then try loading the public domain program called EZCPR. If this does not work, try the reverse procedure — load EZCPR first and then try loading Cache/Q. If this does not work either, just forget it — you've just proven that ZCPR and Cache/Q are incompatible (or that Cache/Q has some bugs in it). By the way, EZCPR is much easier to install than all other versions of ZCPR — the name should tell you something! — and, it works with ZCPR2 utilities. Good luck!

Leon Suchard
Massapequa, NY

Shakeout Shock

I am still in a state of shock from the demise of *Microsystems* and its replacement with *PC Tech Journal* (both from Ziff-Davis). The replacement is more or less worthless as far as I am concerned. This renders many of us even more dependent on *User's Guide.* I only hope that you are in the position to take up the slack.

A suggestion for future issues: an article on the SUBMIT function. Is there any way to make SUBMIT cross "user number" boundaries? Such a capability would be a great help. Also, why not some articles on the various aspects of CP/M 86 and 816?

Peter Nevius
Schenectady, NY

Good suggestions. You need one of the public domain SUBMIT utilities or the MAKE utility. We'll cover this topic soon. Meanwhile, keep an eye out for a small publication to be put out by the former editor of Microsystems, *Sol Libes, who is free of Ziff-Davis.*

We have always considered User's Guide *to be complementary to magazines such as* Microsystems *which are mostly about programming and written for experts in the computer field.* User's Guide *is written for serious users (they are called "power users" these days) who are not necessarily programmers or experts, but are serious about solving problems with their computers. There is no doubt that* User's Guide *will continue to cover the usage of CP/M systems, whereas magazines focused on programming are moving on to cover the IBM or Apple worlds.*

Commendations

You are to be commended on your publication. I didn't realize that such an informative and useful publication existed. I am a novice (59 years old), semi-retired.

I feel that these publications are a must for someone like me just getting started.

Keep up the fine work.

Stanley L. Hoffman
Dunnellon, FL

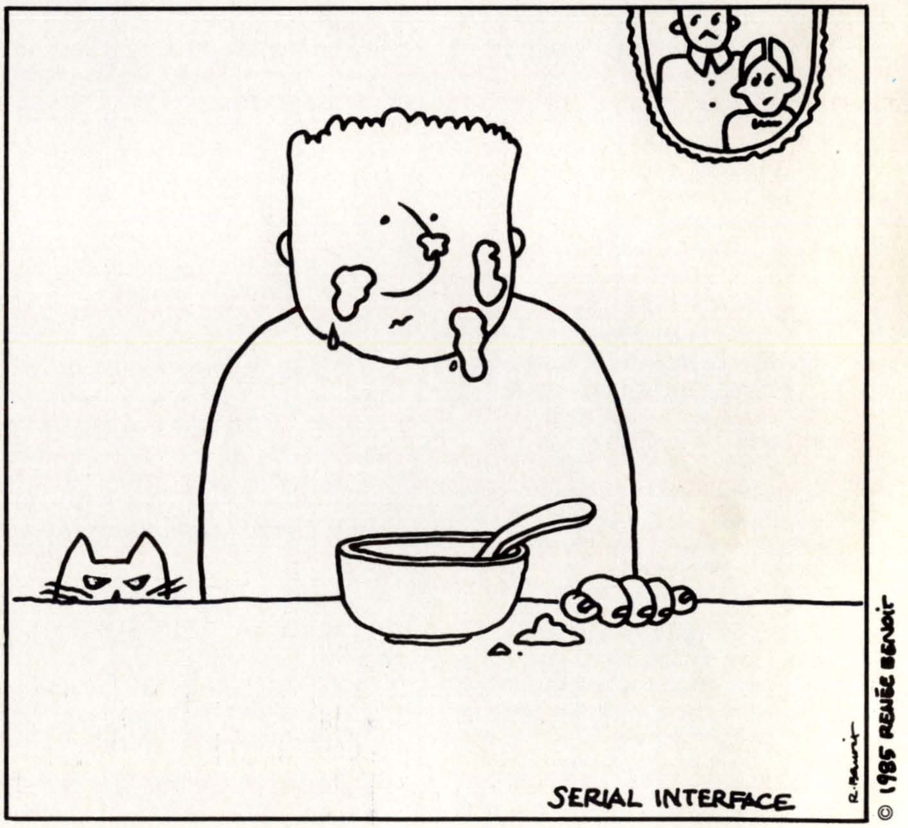
This is the kind of information I have been seeking in all my other subscriptions to computer literature. This letter is being written even before finishing my premiere issue — to order all other back issues.

Larry K. Mason
Berkeley, CA

I have received and read my second issue of User's Guide. I must say of all the computer magazines I subscribe to, this one is the hardest to put down.

I didn't have to wait for my second issue to know I wanted all the back issues, it just took me a while to sit

Continued on page 39.



Joy of Tax

In which our intrepid editors attempt to prepare you for one of the more frustrating experiences of the modern world.

by Tony Bove & Cheryl Rhodes
with Steve Rosenthal

Doing your income taxes with a personal computer may seem perplexing at first, especially if you don't have experience with spreadsheet programs. The programs might be sparsely documented and the data entry screens might be a trifle more cryptic than the pre-printed government forms. You may find yourself lost in the spreadsheet program thinking that you could have used a pencil, a calculator and an eraser and have finished the job by now.

One thing is certain: the programs won't take the place of a good book about taxes or a tax accountant if you need one. Income tax programs have to be changed (or at least updated) *every year* for them to be useful for more than one year, so it is not likely that any of these programs will be sophisticated enough to be a tax expert. The programs are designed to help you *fill out* and *calculate* the forms, not to counsel you on your tax situation (although optimists in the computer industry are expecting "expert systems" any day now).

The spreadsheet template programs (three are reviewed in this issue) are only useful if you know (or want to know) how to use the spreadsheet program; otherwise you will spend a lot of time learning how to use your spreadsheet program before doing your taxes. If you need a spreadsheet program for other tasks, it's worth your while to get one and learn it.

SuperCalc® (Sorcim/IUS), Perfect Calc® (Thorn EMI) and Multiplan® (Microsoft) are the most popular spreadsheet programs for CP/M computers; Lotus 1-2-3® and Multiplan are the most popular ones for the IBM PC; Multiplan is probably the most popular one for the Apple II, IIc, IIe and Macintosh. It's a good bet that Multiplan will one day be the most well-known spreadsheet program, whether or not it it has all the features everyone wants.

To start you off with the spreadsheet templates, we show you just a few commands you should know in order to use SuperCalc, Perfect Calc and Multiplan spreadsheet templates. Steve Rosenthal adds his comments on what might happen if the tax program produces an incorrect return.

SuperCalc

SuperCalc is perhaps the easiest to learn how to use, but has the least number of features of the three. It is also the one that closely resembles the original VisiCalc. SuperCalc does not have facilities for linking spreadsheets or creating "buffers" like the other ones. It is a simple spreadsheet program that works. SuperCalc^2 has more features including the facility for consolidating several spreadsheets, but the packages we reviewed do not make use of SuperCalc^2 features.

SuperCalc starts when you type its name and press Return. To load a spreadsheet into SuperCalc, type the `/L` command followed by the spreadsheet's filename and the letter `A` to load the entire spreadsheet.

Usually spreadsheets are saved with "automatic recalculation." If you want to switch to manual, type `G` and then `M` (for global manual recalculation). This speeds up data entry; otherwise SuperCalc would recalculate the spreadsheet after every entry you type.

To move around a spreadsheet, use your cursor movement keys (keys with arrows), or use Control-`S` (left), Control-`D` (right), Control-`E` (up) and Control-`X` (down). Press Return to execute commands or enter numbers, strings of text, and formulas. If you split the screen with windows (using the /W command), you can switch from one window to another by typing a semicolon (;).

You can type numbers directly into cells; to type a string of text, start the string with a double-quote (") but don't end it with one.

To see a short list of SuperCalc commands, type a slash (/). To see a list with explanations, type a question mark (?) after typing the slash. All SuperCalc commands start with a slash. To cancel a command you can use your backspace or left-arrow key to "back out" of it, or type Control-C or Control-Z to clear the entry.

To recalculate a spreadsheet, type an exclamation point (!). You can type it again to recalculate again (do so if you have formulas in cells that refer to cells below them).

To print an entire spreadsheet, type /ODALL (output the entire display), and when the paper is aligned and the printer ready, type P. To print a portion such as from cell A1 to A20 to L20 to L1, type /ODA1:L20 followed by P. Most templates (including USTAX84 reviewed in this issue) are supplied with documentation telling you the command to use to print portions of the spreadsheet.

If there's an error, whatever your luck might be on eventually getting the software vendor to pay any adjustments and penalties, the IRS will look to you for the money.

To save a spreadsheet, type /S followed by the name to use for the file (or press the ESCape key for the name of the file last loaded). If you use a filename that is already in use, SuperCalc asks if you want to turn the old one into a file with the extension ".BAK" (for backup), or if you want to overwrite the old file, or if you want to use a new name for the new file (and keep the old file). Type B to create a backup, O to overwrite the old file, or C to change the name of the new file. Then type A to save the entire spreadsheet.

Finally, to clear your workspace in preparation for loading or creating a new spreadsheet, use the /Z (zap memory) command. To leave SuperCalc, type Q for "quit."

You should of course consult your SuperCalc manual for more information. You should also read the SuperCalc tutorial articles in *User's Guide* back issues #2 and #4.

Multiplan

Multiplan starts when you type its name and press Return. To load a spreadsheet into Multiplan, type the TL (Transfer, Load) command followed by the filename of the spreadsheet.

Usually spreadsheets are saved with "automatic recalculation." If you want to switch to manual, type O and then N (for no recalculation). This speeds up data entry; otherwise Multiplan would recalculate the spreadsheet after every entry you type.

Multiplan spreadsheets usually have locked and unlocked areas. You can type data only in unlocked areas, although you can first unlock a locked area and then type data there. The purpose of locked and unlocked areas is to make it easy for you to fill out forms. You can move from one unlocked cell to the next one with Control-F. Enter data into a cell, then press Return.

To move around the locked and unlocked areas of a spreadsheet, use your cursor movement keys (keys with arrows), or use Control-S (left), Control-D (right), Control-E (up) and Control-X (down). Control-Q moves the cursor to the "home" (upper left corner) position of the screen.

If the file was saved with split windows, you can switch from one window to another by typing Control-W.

Press Return to execute commands or enter numbers, strings of text, and formulas. You can type numbers directly into cells; to type a string of text, first press ESCape and type A (for "alpha" mode), then type the string. Press Control-F to save the string, move on to the next unlocked cell and stay in "alpha" mode; or press Return to save the string and leave "alpha" mode. In the next cell you can then type a number, or a text string by first typing a space then the string.

To see a short list of Multiplan commands, press your ESCape key. All Multiplan commands start with a capital letter; you can type the letter to execute the command. To see information about a command, type a question mark (?). To see the extensive Multiplan "help" screens, press ESCape and then type H for the Help command. To cancel a command type Control-C.

To recalculate a spreadsheet, type an exclamation point (!). You can type it again to recalculate again (do so if you have formulas in cells that refer to cells below them).

Multiplan spreadsheets can be saved with print areas selected so that when you select the Print command, you don't have to remember the boundaries of the area you selected. Most templates supplied for Multiplan (including TaxVision, reviewed in this issue) have defined print areas. To print a spreadsheet you type PP (make sure the paper is aligned and the printer is ready).

To save a spreadsheet, type TS. To save it under another name, type TR followed by the new name, then type TS to save it.

Finally, to clear your workspace in preparation for creating a new spreadsheet, use the TC command. To leave Multiplan, type Q for "quit."

Perfect Calc

Perfect Calc spreadsheets can be linked like Multiplan's, but you must load them into a *buffer* to establish the linking relationships. To start Perfect Calc and load a set of spreadsheets into the buffer, type Perfect Calc's name and the filename of the master spreadsheet, then press Return.

The loading process takes some time because Perfect

Calc loads all the spreadsheets into the buffer. You can load an individual spreadsheet by typing the Control-`X` Control-`F` command followed by the filename of the spreadsheet.

Usually spreadsheets are saved with "automatic recalculation." Perfect Calc is extremely slow in this mode. You will want to switch to manual recalculation by typing Control-`X` and then a lower case `m`.

Perfect Calc spreadsheets usually have locked ("protected") and unlocked ("unprotected") areas. You can type data only in unlocked areas, although you can first unlock a locked area and then type data there. The purpose of locked and unlocked areas is to make it easy for you to fill out forms. You can move from one unlocked cell to the next one with Control-`S`. Enter data into a cell, then press Return.

To move around the locked and unlocked areas of a spreadsheet, use your cursor movement keys (keys with arrows) if your Perfect Calc installation works with them; otherwise use Control-`B` (left), Control-`F` (right), Control-`P` (up) and Control-`N` (down). Use Control-`A` to move to the beginning of a line, and Control-`E` to move to the end.

If the file was saved with split windows, you can switch from one window to another by typing Control-`XO` (the letter "O").

Press Return to execute commands or enter numbers, strings of text, and formulas. You can type numbers or text strings directly into cells. Perfect Calc senses that you are typing a numeric entry if you first type a number, or a formula if you first type an equal sign (`=`), or a direct "goto" movement command if you type an angle bracket (`>`); otherwise, it thinks you are typing a "label" (text string). You can force Perfect Calc to accept a number or bracket or equal sign as part of a label by first typing a double-quote (`"`).

Some Perfect Calc commands are Control-key sequences and some are ESCape key sequences. For help, type a question mark (`?`). To cancel a command type Control-`G`.

To recalculate a spreadsheet, type an exclamation point (`!`). You can type it again to recalculate again (do so if you have formulas in cells that refer to cells below them). You have to recalculate twice in some cases to get accurate results with linked spreadsheets. Unfortunately Perfect Calc's recalculation of seven spreadsheets is slow.

You can define a region of a Perfect Calc spreadsheet to be printed, or you can print the entire spreadsheet with the Control-`X` Control-`P` command. To define a region, set a mark by moving the cursor to the upper left edge of the region and pressing ESCape and the space bar; then move the cursor to define the region, and print the region with the Control-`X` `p` (lower case "p") command. Make sure the paper is aligned and the printer is ready.

To save a spreadsheet in the same file overwriting the old version, type Control-`X` Control-`S`. To save it under another name, type Control-`X` Control-`W` followed by the new name and press Return.

Finally, to clear your workspace and buffer space in preparation for creating or loading a new set of spreadsheets, use the Control-`X` Control-`K` command. To quit Perfect Calc, type Control-`X` Control-`C`.

What if the program makes an error?

As the signer of a tax return, you're personally responsible for the completeness and correctness of the data and the calculations. If there's an error, whatever your luck might be on eventually getting the software vendor to pay any adjustments and penalties, the IRS will look to you for the money.

Although the IRS only is bound by official statements and rulings, an informal check with my local office reported that the government would probably treat any computer errors the same way they currently treat mathematical mistakes — you have to pay the adjustment and interest, but they rarely assess an additional penalty unless there is evidence of deliberate underpayment (if the correction results in money back to you, they may even pay *you* interest).

If you're sufficiently conscientious, compulsive or curious, you might want to check the program logic to see if all transfers and summaries are done correctly. Some programs list that information back in an appendix, but most don't include it at all. The IRS requires that you be able to demonstrate and explain how your "ADP" (for "automatic data processing") system works if necessary, so someday, somewhere, either the rules or industry practice will have to be brought in line.

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Preparing Tax Returns With Spreadsheet Templates

A section of reviews of pre-programmed spreadsheet templates for preparing income tax returns.

by Tony Bove & Cheryl Rhodes

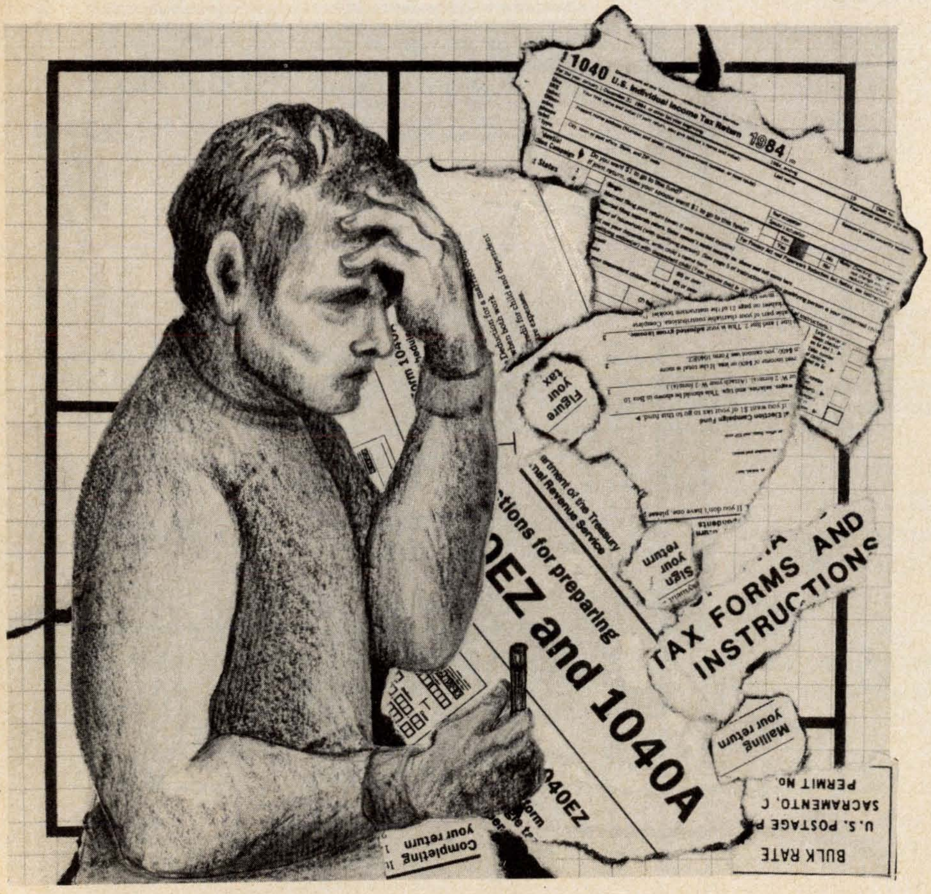
1040 U.S. Individual Income Tax Return 1984
Figure your tax
Sign your return
Instructions for preparing 1040EZ and 1040A
Department of the Treasury Internal Revenue Service
TAX FORMS AND INSTRUCTIONS
Mailing your return
Completing your return
PERMIT NO.
SACRAMENTO, C
U.S. POSTAGE P
BULK RATE

Illustration by Sahnta Pannutti

Let me tell you how it will be
There's one for you, nineteen for me...
— George Harrison, "Taxman"
(Northern Songs)

What is wasted more, the time or the money? Our tax dollars may be spent on $150 screwdrivers, but the real waste is the time we spend trying to figure out how much we owe the government. Tax preparers are the only people who profit from today's tax laws, and the only consolation we have is that they, too, must pay taxes on what they make.

When we do our taxes, we spend nearly as much time filling out the forms and using the calculator as we do shuffling through our shoeboxes of receipts to find all the business expenses. Our annual ritual of income tax reporting has become so complicated that we turned to a tax accoun-

Schedules & Forms	**TAX2**	**USTAX4**	**TaxVision**
Price	$34.50	$49.00	$89.00
Requires:	Perfect Calc	Super-Calc	Multi-Plan
1040 (Federal Income Tax)	•	•	•
1040EZ (easy form)		•	
1040A (alternate form)		•	
State Income Tax			
Schedule A (itemized deductions)	•	•	•
Schedule B (interest/dividends)	•	•	•
Schedule C (business profit/loss)	•	•	•
Schedule D (capital gains/losses)	•	•	•
Schedule E (supplemental income)	•	•	•
Schedule F (farming profit/loss)			•
Schedule G (income averaging)	•	•	•
Schedule R (elderly/disabled credit)			•
Schedule SE (self-employment tax)		•	•
Schedule W (both work file jointly)	•	•	•
Tax Rate Schedules X, Y & Z	•	•	•
1984 Tax Table	•	•	•
State Sales Tax Tables	CA		
Form 2106 (employee business expenses)		•	•
Form 2119 (sale of residence)		•	•
Form 2210 (underpayment of est. tax)			•
Form 2441 (child/dependent care credit)		•	•
Form 3468 (compute investment credit)		•	•
Form 3903 (moving expenses)			•
Form 4562 (depreciation/amortization)		•	•
Form 4684 (casualties and thefts)			•
Form 4797 (supplemental gain/loss)			•
Form 5695 (energy credits)			•
Form 6251 (alternative minimum tax)			•
Form 6252 (installment sale income)			•

tant last year. This year, however, we vowed we would put some of these income tax programs to good use.

Since we are familiar with SuperCalc, Perfect Calc and Multiplan, we investigated the low cost spreadsheet templates available for these programs. We also investigated a tax package for professional tax preparers. That review appears elsewhere in this issue because it is of primary interest to professional accountants.

This section reviews the three best spreadsheet templates we could find for CP/M systems. They are all less than $90 (TaxVision, the most expensive, is $89). We kept to our premise that income tax preparation for an individual should be painless and inexpensive.

We came to these conclusions:

- The tax programs are no substitute for a good book on tax accounting or a good tax preparer, because they cannot advise you on what deductions are legal, or which forms you should use.

To decide which 1040 form and Schedules you should use, you need your income and expense records sorted and tallied, plus tax records and assorted forms ready to fill out.

- The programs do not tell you how to do your taxes. They don't even explain themselves very well. You must know already what depreciation means, what to do with dividend income, what to do with mortgages and interest payments, and what Schedules you need to file with your 1040 Form.

- Before loading the templates into the spreadsheet program, in every case you must *first turn off the automatic recalculation mode* of the spreadsheet program; otherwise you will be waiting a long time for the template to recalculate after you enter each amount, and the template will probably show errors in some cells because the recalculations occur without all of the proper data.

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Seventy-six support utilities, five tool packages, and two application programs available now! Fully upward compatible with CP/M-80.

Z can now be purchased as auto-install program (Z-Com) or as manual-install ZCPR3 with semi-auto install ZRDOS package (Z-System). Our latest versions, to be released this year, support Zilog Z800 and Hitachi HD62801/64180 high-technology chips, chips run existing 8080 and Z80 programs!

Echelon eight-bit operating systems written in Assembly Language, using linkable macro subroutine libraries, offer performance paralleling best single-user 16/32-bit microcomputer systems.

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2. **Z-System** Manual-install ZCPR3 and ZRDOS2, easily tailored by programmer to custom needs; source code to core and utilities; similar to Item 1 .... **$199.95**

3. **Z-Tools** Four software development system packages permitting advanced, structured program design, macro relocating assembler, linking loader, librarian, cross-reference generator, debugger, mnemonic and pseudo-op translators, and interactive disassembler. Super $315.00 package value **$200.00**

4. **DSD** Dynamic Screen Debugger offers high-level features never before found in microcomputers; simultaneous display of dual-memory segments, stack, cpu states, and flags, with software In-Circuit-Emulation **$149.00**

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Syslib3 alone **$29.00**

6. **Term3** New generation communication program permits menu control of computer/modem operations between operator and time-share services, bulletin-boards and other remote computer systems; auto-answer to command-line prompt **$99.00**

7. **Discat** Fancy file and disk catalog program running under Z-System, menu driven and easily customized by operator **$49.00**

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• In most cases you have to know what Schedules you need. You don't have to look up taxes in tables, nor do you need a calculator when you use these programs or templates. But you must understand the 1984 Tax Schedules and get the ones you need.

• Few programs actually print returns for you. Most print the data in a printable form so that you can copy the data onto a 1040 Form and onto the appropriate Schedules. The notable exception to this is TaxVision, which prints acceptable Schedules and Forms including a Form you can use with a clear plastic 1040 overlay.

• Most manuals are vague about how to begin and how to set up your spreadsheet template. They require that you already know how to use your spreadsheet program. This is reasonable since the templates are not expensive. The spreadsheet program provides all the calculator functions you need, but it will not calculate unless you or the template provides the formulas.

Which one do we like the best? TaxVision is the most complete and the fastest to prepare and print a complete return; it is also nearly twice the price of the other templates. USTAX84 has more Schedules and is better organized than TAX2, but has scant documentation. However, SuperCalc users would prefer USTAX84 to Perfect Calc and TAX2 because it runs much faster, even with "global recalculation mode" kept on automatic.

TAX2 suffers some because Perfect Calc is slow, but it offers the feature of linked spreadsheets — the result of one Schedule is automatically transferred to other Schedules and the 1040 form. Due to SuperCalc's limitation USTAX84 does not link spreadsheets — you have to enter numbers manually on the 1040 spreadsheet.

All things considered, people choose a tax program based on their individual needs and taste. The accompanying chart should help you decide which program to use based on the Schedules and Forms you need.

TAX2

A set of linked spreadsheets for Perfect Calc users.

by Tony Bove & Cheryl Rhodes

TAX2 is by Zero & One Software (1298 Windermere Way, Concord, CA 94521); it requires Perfect Calc and CP/M 2.2 or 3.0, and at least 70K disk space (one disk drive). You must supply your own tax forms.

Price: **$34.50** (plus tax) for a manual and a 5¹/₄" disk in one of the following formats: Osborne, Kaypro, PMC Micromate, or Pied Piper; or **$29.50** (plus tax) if you send, along with a self-addressed stamped envelope (SASE), a pre-formatted 5¹/₄" disk in one of the following formats: Osborne, Kaypro, PMC Micromate, Pied Piper, Xerox, Omikron, Morrow, HP, DEC, Cromemco, Intertec Intersystems, Sanyo, Televideo, or Zenith. Phone support is provided: (415) 671-7309.

Updates: **$20** (plus tax, return old disk with SASE), available after Jan. 5th of each year.

The TAX2 package from Zero &One Software consists of one disk almost filled with Perfect Calc spreadsheet templates, and a 23-page 3-hole-punched manual.

This inexpensive package does not include any of the pre-printed tax forms you will need. Usually if your tax situation has not changed since last year, the IRS automatically sends you the forms you need.

The IRS requires that you send in the pre-printed 1040 (or 1040A, 1040EZ) form. TAX2 does not print an exact duplicate of the 1040 Form, so you will need to transcribe the information from the TAX2 1040 worksheet onto an IRS pre-printed 1040 form.

The IRS will accept schedules A, B, C, D, E, and W in TAX2 printout form, because the TAX2 templates for these schedules look exactly like their IRS counterparts.

Most of the advantages of using TAX2 over other spreadsheet template packages is that it runs under Perfect Calc and therefore is immediately useful to the thousands of Kaypro buyers who had Perfect Calc bundled with their computer.

Income tax in 1984 is complicated enough to require multiple spreadsheets, and Perfect Calc is well suited for handling multiple spreadsheets with its "buffer" facility. You can have up to seven spreadsheets in Perfect Calc multiple buffers, and cause data to be transferred easily from one spreadsheet to another. Most income tax spreadsheet templates use multiple spreadsheets, and Perfect Calc makes it somewhat easier to link them.

One example of the "multiple spreadsheet buffer" advantage of Perfect Calc is the ability to put the 1040 spreadsheet in one "window" of the screen and another spreadsheet (e.g., Schedule A) in the other window. With this setup you can type data into your Schedule A spreadsheet and, after recalculation, see the results appear on the 1040 form.

Spreadsheet templates are usually very easy to use if you know how to use the spreadsheet program. However, they are usually of no value unless you know the application for which they were intended. For this reason you may want the package to be supplied with a manual that provides a lot of examples, application tips and helpful suggestions, as well as clear and con-

```
tax2      d98  TAX2.PC       -> schede
schede    c87  SCHEDE.PC     -> schedd
schedd    h72  SCHEDD.PC     -> schedc
schedc    c76  SCHEDC.PC     -> scheda
scheda    c126 SCHEDA.PC     -> schedx
schedx    d52  SCHEDX.PC     -> tax2
```

Figure 1. *Perfect Calc's buffer directory shows the interdependency relationships between the TAX2 spreadsheets. Recalculation of one spreadsheet depends on the recalculation of the spreadsheet pointing to it.*

cise instructions on how to enter data into the template spreadsheets.

Unfortunately the TAX2 manual is more often vague than clear in its instructions on how to use the templates and Perfect Calc, and there are some typographical errors that can lead you astray. For example, many Perfect Calc commands involve UPPER case and lower case letters, but the TAX2 manual sometimes confuses them.

Like most "homebrew" manuals, the TAX2 manual needs organizational work and better grammar. Some instructions are misleading because the manual is not consistent in its depiction of Control-key sequences (occasionally the manual says to use "C-X" when it actually means Control-`X`). However, the most effective improvement would be some real examples. The TAX2 manual has "some examples of tax planning" that are at best too simplistic and at worst totally useless.

We found the package useful both for tax preparation and tax planning, but only if you have a good working knowledge of Perfect Calc. What follows is a "Form by Schedule" description of using TAX2 to prepare 1984 tax returns.

Using TAX2

The instructions on how to use TAX2 assume you already know Perfect Calc and how to load Perfect Calc spreadsheets. TAX2 makes use of the Perfect Calc buffer that can pass data from one spreadsheet to another. The spreadsheets are linked to each other and to the 1040 Form so that calculations are automatically copied from the Schedules onto the 1040 Form.

The TAX2 manual suggests that you start with the depreciation spreadsheet DEP1.TAX, since you may need to calculate depreciation for Schedules C, E and A or Form 4562. Type the name of the Perfect Calc program along with the name `DEP1.TAX` and press Return (for example, `PC DEP1.TAX ↵`). Perfect Calc takes a few minutes to load DEP1.TAX.

Immediately after you load DEP1.TAX or any spreadsheet file, you should turn off Perfect Calc's automatic calculation feature by selecting manual calculation mode (Control-`X` followed by `mm` in lower case letters). If you don't change recalculation mode to *manual*, Perfect Calc recalculates the spreadsheet after every entry. This recalculation, if not changed to manual, takes considerable time and erodes your patience with the package.

In manual recalculation mode, Perfect Calc calculations occur only when you press the exclamation point. Note that when you've loaded the rest of your tax spreadsheets, Perfect Calc will need to calculate up to four spreadsheets, and you will need to use two (and sometimes four) exclamation points to get correct results.

Use the Perfect Calc Control-`S` command to find the first "unlocked" (unprotected) cell where you can enter data. Using Control-`S` you can move quickly through the spreadsheet, stopping only at unprotected cells where you need to supply data.

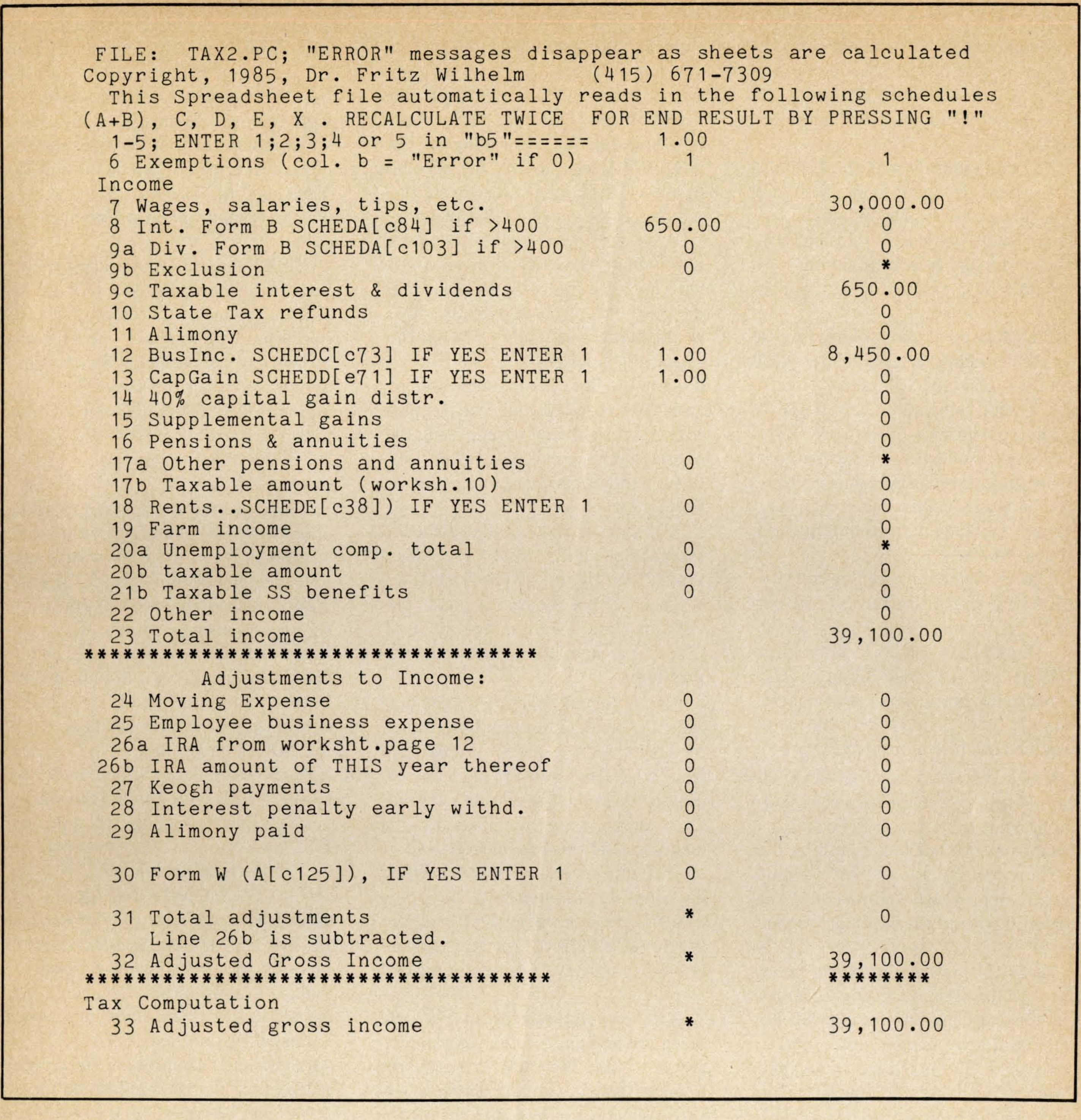
The first stop is the cost of the property; the second is the question about investment credit. You enter a `1` to claim 10% investment credit, or `0` to claim no credit. You then move on to the *class* of the property. For information, you need to consult a tax guide about depreciation.

The DEP1.TAX spreadsheet calculates depreciation according to the accelerated (ACRS) or straight line methods. You can calculate ACRS depreciation over 3, 5, 10 or 18 years for regular property, 15 years for rental property, 15 years for low income housing property, 15 years for public utility property, or straight line depreciation over 3, 5, 12, 15, 35 or 45 years.

The spreadsheet calculates the depreciation amount to use in this year's return. Note down this amount to include in other Schedules. You can always return to this spreadsheet to calculate depreciation for other properties.

Perfect Calc lets you load up to seven spreadsheets in its *buffer*. The TAX2 package comes with six main spreadsheets that have the ".PC" extension — these are *linked* in such a way that when they are in the buffer, Perfect Calc can recalculate all of them and pass data from the Schedules to the 1040 spreadsheet (called TAX2.PC). The DEP1.TAX and other ".TAX" spreadsheets, including two for income averaging (INCAVG.TAX and GX.TAX) and one for California sales tax (CALSALE.TAX), are meant to be used by themselves for calculations — they are *not* linked to the six main spreadsheets.

To load in the Form 1040 and other



```
 FILE:  TAX2.PC; "ERROR" messages disappear as sheets are calculated
Copyright, 1985, Dr. Fritz Wilhelm     (415) 671-7309
  This Spreadsheet file automatically reads in the following schedules
(A+B), C, D, E, X . RECALCULATE TWICE  FOR END RESULT BY PRESSING "!"
  1-5; ENTER 1;2;3;4 or 5 in "b5"======     1.00
  6 Exemptions (col. b = "Error" if 0)        1              1
 Income
  7 Wages, salaries, tips, etc.                          30,000.00
  8 Int. Form B SCHEDA[c84] if >400        650.00            0
  9a Div. Form B SCHEDA[c103] if >400         0              0
  9b Exclusion                                0              *
  9c Taxable interest & dividends                         650.00
  10 State Tax refunds                                       0
  11 Alimony                                                 0
  12 BusInc. SCHEDC[c73] IF YES ENTER 1     1.00        8,450.00
  13 CapGain SCHEDD[e71] IF YES ENTER 1     1.00             0
  14 40% capital gain distr.                                 0
  15 Supplemental gains                                      0
  16 Pensions & annuities                                    0
  17a Other pensions and annuities            0              *
  17b Taxable amount (worksh.10)                             0
  18 Rents..SCHEDE[c38]) IF YES ENTER 1       0              0
  19 Farm income                                             0
  20a Unemployment comp. total                0              *
  20b taxable amount                          0              0
  21b Taxable SS benefits                     0              0
  22 Other income                                            0
  23 Total income                                        39,100.00
***********************************
         Adjustments to Income:
  24 Moving Expense                           0              0
  25 Employee business expense                0              0
  26a IRA from worksht.page 12                0              0
 26b IRA amount of THIS year thereof          0              0
  27 Keogh payments                           0              0
  28 Interest penalty early withd.            0              0
  29 Alimony paid                             0              0

  30 Form W (A[c125]), IF YES ENTER 1         0              0

  31 Total adjustments                        *              0
     Line 26b is subtracted.
  32 Adjusted Gross Income                    *          39,100.00
************************************                     ********
Tax Computation
  33 Adjusted gross income                    *          39,100.00
```

Figure 2. *The 1040 spreadsheet supplied with TAX2, starting with the filing status.*

main spreadsheets, type Control-`X` Control-`F` (find file), followed by `tax2.pc`↵ (the name of the 1040 spreadsheet). Perfect Calc reads TAX2.PC into the buffer which in turn reads four other spreadsheets (Schedules A&B, C, D and E) and the tax tables X, Y and Z into the buffer. This should take about three minutes. When it finishes you see the DEP1.TAX spreadsheet on your screen again.

To see what you have in your buffer, type the command Control-`X` Control-`B`. This displays the *buffer directory* of Perfect Calc (figure 1), showing how the spreadsheets are linked. The relationship shown by the arrow is one of interdependency: the spreadsheet can be recalculated, but it causes the recalculation of the spreadsheet linked to it.

You can start at any Schedule or Form, but if you are not sure where to start, try the 1040 spreadsheet. To switch to this spreadsheet, type Control-`X` followed by a lower case `b` and the name of the spreadsheet as it is called in the buffer (as shown in the leftmost column of the buffer directory). The name of the 1040 spreadsheet is tax2. Then press Return (shown as ↵ in this article). The 1040 should appear on your screen. Remember to type Control-X followed by lower case mm to switch to manual recalculation mode.

You can enter data on the 1040 until you need to switch to another Schedule or Form. The Schedule spreadsheets are loaded into the buffer, and you can switch from one spreadsheet to another using the Control-X b command.

TAX2 assumes you will need to use the 1040 spreadsheet, Schedules A&B and the alternate (X, Y, and Z) tax tables. To add Schedules C, D, E and W to the recalculation of the 1040, answer 1 to the question on the 1040 corresponding to those Schedules. This method seems clumsy but it lets you decide to include data from Schedules on your 1040.

The 1040 spreadsheet (figure 2) starts with your filing status (1 for single, 2 for married filing jointly, etc.). You should have the pre-printed Form 1040 next to you while filling out the spreadsheet, because the spreadsheet does not have as much information on each line as the pre-printed Form.

When you reach line 8 of the 1040 form (line 9 of the spreadsheet), you might want to switch to Schedule A&B (called schedA in the buffer). The TAX2 manual suggests that you split the screen into two windows: one holding the 1040 and one holding Schedule A&B.

To do this, move your cursor below line 8 of the 1040, and type Control-X 2. If Perfect Calc asks for a vertical or horizontal split, answer h for a horizontal split. To the question about synchronization answer n. Now with the cursor in the bottom "window", you can type Control-X b followed by scheda↵ to switch to Schedule A.

If you don't like to work with a split screen (the recalculation takes several minutes to see the result in the top window), type Control-X 1 and the screen will show only one spreadsheet — the one your cursor is in when you execute the command.

The spreadsheet for Schedule A also contains Schedule B (interest and dividends) and W (deduction for working married couple). When you've completed it, type an exclamation point to calculate the totals, then type Control-X Control-S to save the new Schedule A (overwriting the old one). If you want to save the Schedule in a new file without overwriting the old one, use Control-X Control-W.

A note to novice Perfect Calc users: if you don't have a lot of experience with multiple spreadsheets in the buffer, use the Control-X Control-W command so that you don't overwrite the supplied spreadsheets. It is possible to destroy the links if you accidentally type the wrong command; if you then save the spreadsheet (overwriting the old one), you cannot reconstruct the links without learning more about Perfect Calc.

You can switch to another Schedule such as Schedule C to report business profit/loss (figure 3). The Schedule C spreadsheet has the cost of goods calculation (Part III) first, before Part I, to aid in recalculating the business profit/loss.

As you fill out Schedule C, you may want to calculate depreciation using the DEP1.TAX spreadsheet. Use Control-X b followed by dep1 (the name of the depreciation spreadsheet). Perfect Calc takes a while (no understatement) to load this spreadsheet, and after it appears on the screen, *remember to set it to manual mode* by typing Control-X mm (otherwise you'll wear out your disk as Perfect Calc will recalculate everything every time you make an entry).

After calculating depreciation, note down the amount for this year and switch to your Schedule C spreadsheet to enter the amount (the depreciation spreadsheet is not linked to the others). Continue to fill out the Schedule C spreadsheet and save it.

The 1040 spreadsheet does not pick up the amounts from Schedule C or D for lines 12 and 13 unless you change the zero in column B (next to the IF YES ENTER 1 on these lines) to a one. This lets you decide whether to use amounts from the completed schedules or to put new amounts directly into the 1040 on those lines.

Once you've completed the Schedules and Forms, TAX2 calculates your tax using one of three different methods. You can save the completed worksheets and compare them to see which is best for your tax situation. Income averaging (Schedule G), the Tax Table, and the Tax Rate Schedules X, Y or Z probably show different results.

TAX2 automatically calculates your tax using the X, Y or Z Rate Schedules unless you replace the zero in column B on the 1040 line 37 with a 1. This lets you manually enter a tax amount — either the Schedule G amount (from GX.TAX, entered manually) or the amount from the Tax Table in the IRS 1040 printed instructions.

To do income averaging, you must clear the buffer of all files; *but first* we suggest that you write down your taxable income for 1984 (line 37 of your 1040) because you need this amount to figure your average income. The problem is that the INCAVG.TAX and GX.TAX spreadsheets are not linked to the other main spreadsheets, and even if they were, they would not fit in the buffer unless you deleted two other spreadsheets (likely candidates for deletion: DEP1.TAX and a Schedule you're not using such as Schedule D or E).

The instructions for the INCAVG.TAX and GX.TAX spreadsheets are hard to follow at first because they are vague. After experimenting with the spreadsheet (and looking at a pre-printed Schedule G), we deduced that the "amounts" asked for in cell A8 of the GX.TAX spreadsheet is actually one amount per calculation: the taxable income for 1984 from line 37 of your 1040. The GX.TAX spreadsheet produces the result — your tax based on your average income — which you must enter manually on your 1040 spreadsheet.

Included in the TAX2 package is a spreadsheet for calculating the California state, local and district sales

Figure 3. *The Schedule C spreadsheet (business profit/loss) supplied with TAX2.*

```
 Schedule C, Profit/Loss      For Calculation Reasons Part III appears
 From Business/Profession     before  parts I and II.
PART III
COST OF GOODS AND SERVICES:

1 Inventory, begin of year     1,000.00
2 Purchases less priv.          650.00
3 Cost of labor                   0
4 Material                        0
5 Other costs                     0
6 Sum ^                        1,650.00
7 Less invent. end of year     1,200.00

8 Total cost of goods sold:     450.00
                               ********
PART I.-INCOME:
     **********
 1a Gross receipts/sales      10,000.00
 1b Less: returns/allow.        200.00
 1c balance                    9,800.00    9,800.00
 2 Cost of goods sold/operati     *         450.00
 3 Gross profit                   *        9,350.00
 4a Windfall or refund            0           0
 4b Other income                  0           0

 5 Gross Income:                  *        9,350.00
                                           ********


PART II.- DEDUCTIONS:
     ***************
 6 Advertising                  500.00      500.00
 7 Bad debts from sales/serv      0           0
 8 Bank service charges         200.00      200.00
 9 Car and truck expenses       200.00      200.00
10 Commissions                    0           0
11 Depletion                      0           0
12 Depreciation                   0           0
13 Dues and publications          0           0
14 Employee benefit prog.         0           0
15 Freight                        0           0
16 Insurance                      0           0
17 Interest on bus. debt.         0           0
18 Laundry and cleaning           0           0
19 Legal & prof. services         0           0
20 Office expense                 0           0
21 Pension & profit-sharing       0           0
22 Rent on bus. property          0           0
23 Repairs                        0           0
24 Supplies (exclude costgo.)     0           0
25 Taxes (excl. windf.p.t.)       0           0
26 Travel & entertainment         0           0
27 Utilities & phone              0           0
28a Wages                         0
28b Jobs credit                   0
28c Difference                    *           0
29 Windf.P.T. withheld            0           0
30 Other exp. (spec.:)            0           0
  a                               0           0
  b                               0           0
  c                               0           0
  d                               0           0
  e                               0           0
  f                               0           0
  g                               0           0
  h                               0           0
  j                               0           0

31 TOTAL DEDUCTIONS:                        900.00
***********************                    ********

32 NET PROFIT OR LOSS                      8,450.00
======================                     ========
is entered on line 12 of tax
form 1040
```

taxes (including SF BART, Santa Clara, Santa Cruz, San Mateo and LA Transport taxes). In using this spreadsheet and following instructions, we were at first baffled by it but soon realized that the spreadsheet is for individuals who owe sales tax on items they have sold. This type of spreadsheet was not found in other tax packages.

If you're looking for the sales tax you already paid (to enter into Schedule A), use the state sales tax tables in the 1040 information sent to you by the IRS.

TAX2 does not prepare state tax forms, but most states have simple forms and base their taxes on the taxable income from your Form 1040.

Assessment

TAX2 is not as complete as other packages. The package does not have spreadsheets for Forms 2106, 2119, 2441, 3903, 4797, 6251 and others, but these are not hard to do manually. TAX2 has a spreadsheet (DEP1.PC) that automatically calculates and displays both ACRS and straight line depreciation, but it does not have Form 4562 (depreciation and amortization), nor does it have Form 3468 (computation of investment credit) though it gives a 10% investment credit claim option.

TAX2 does not include Schedule F (profit or loss from farming), or Schedule R (credit for elderly and permanently and totally disabled). Most notably absent is Schedule SE (social security self-employment tax), which is usually provided in tax packages.

The early versions of Perfect Calc are slow in automatic recalculation mode and the Perfect Calc commands are hard to learn, even though most of them are mnemonics for the operations they perform. The program also loads spreadsheets very slowly, and the TAX2 package is set up so that you have to load all of the spreadsheets linked to it.

You can enter data on any spreadsheet if you stay in manual recalculation mode; otherwise you must follow the 1040 Form and switch to other Schedules when you need their results on the 1040.

To its credit, TAX2's linked spreadsheets, if used in manual recalculation mode, can produce a completed return faster than any other package. If you put Perfect Calc and the TAX2 package on a hard disk, you may find TAX2 to be fast enough even in automatic recalculation mode. If so, the multiple windows would then be very convenient when making "what if" calculations.

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USTAX84

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by Tony Bove & Cheryl Rhodes

USTAX84 is by Quantum Resources (5615 Morningside Suite 232, Houston, TX 77005); it requires SuperCalc running on any CP/M or PC-compatible computer; a version that runs under Lotus 1-2-3 is available but was not reviewed. You must supply your own tax forms.

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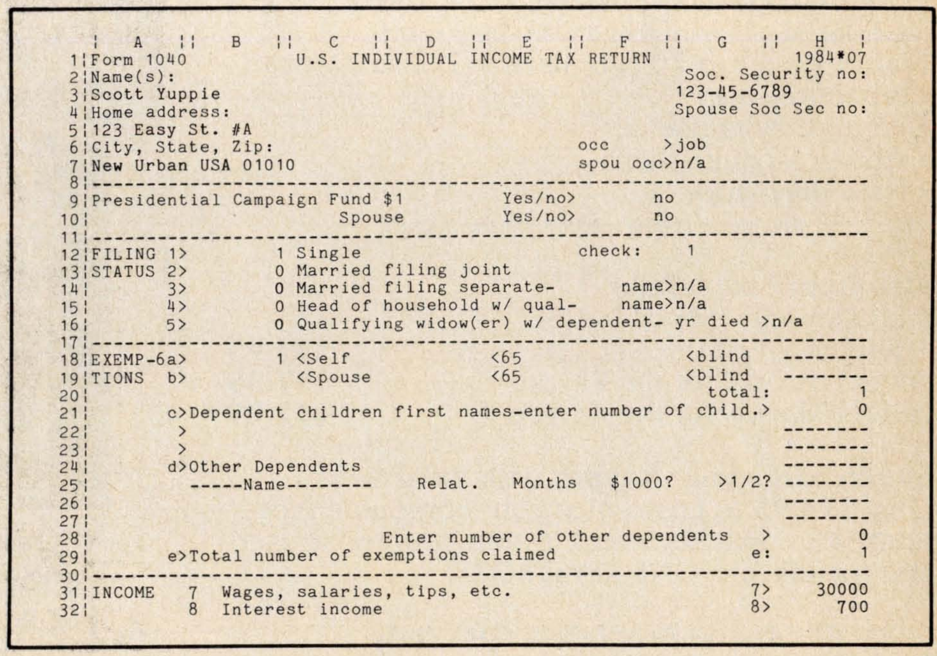
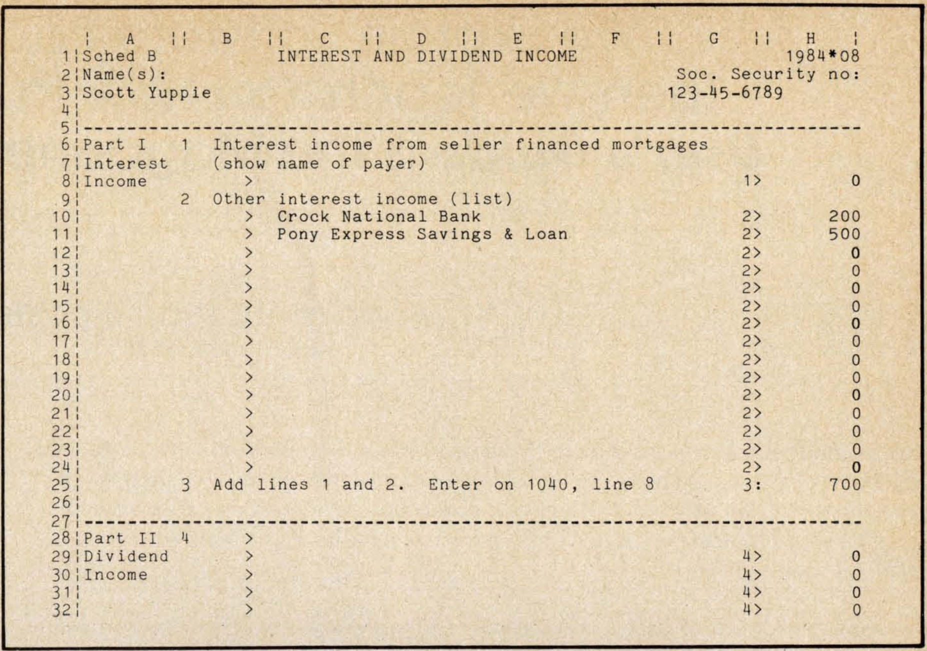
The USTAX84 package contains sixteen SuperCalc spreadsheet templates on a floppy disk and a skimpy 10-page manual. The documentation is sparse and terse but the spreadsheets are straightforward electronic copies of the pre-printed forms and schedules and as such they are very useful, easy to understand, and easy to use. The version we received did not make use of the SuperCalc2 feature that lets you consolidate separate spreadsheets, but it does make use of the /X (execute function) to execute a set of SuperCalc commands in a "command file." With USTAX84 you have to load each schedule and fill it out as you would on paper, but all the calculations and totals are performed for you. SuperCalc spreadsheets cannot be linked as Perfect Calc spreadsheets can, but SuperCalc2 lets you design spreadsheets and command files in such a way that data can be passed from one spreadsheet file to another. Unfortunately USTAX84 does not make use of these SuperCalc2 features which are not available to regular SuperCalc users. Unlike some templates with linked spreadsheets that must be calculated in a special order,



```
   ¦   A   ¦¦   B   ¦¦   C   ¦¦   D   ¦¦   E   ¦¦   F   ¦¦   G   ¦¦   H   ¦
  1¦Form 1040          U.S. INDIVIDUAL INCOME TAX RETURN             1984*07
  2¦Name(s):                                               Soc. Security no:
  3¦Scott Yuppie                                          123-45-6789
  4¦Home address:                                         Spouse Soc Sec no:
  5¦123 Easy St. #A
  6¦City, State, Zip:                            occ     >job
  7¦New Urban USA 01010                          spou occ>n/a
  8¦------------------------------------------------------------------------
  9¦Presidential Campaign Fund $1         Yes/no>       no
 10¦                       Spouse         Yes/no>       no
 11¦------------------------------------------------------------------------
 12¦FILING 1>        1 Single                    check:    1
 13¦STATUS 2>        0 Married filing joint
 14¦       3>        0 Married filing separate-      name>n/a
 15¦       4>        0 Head of household w/ qual-    name>n/a
 16¦       5>        0 Qualifying widow(er) w/ dependent- yr died >n/a
 17¦------------------------------------------------------------------------
 18¦EXEMP-6a>        1 <Self             <65               <blind   --------
 19¦TIONS  b>          <Spouse           <65               <blind   --------
 20¦                                                         total:        1
 21¦       c>Dependent children first names-enter number of child.>        0
 22¦        >                                                       --------
 23¦        >                                                       --------
 24¦       d>Other Dependents                                       --------
 25¦         -----Name--------    Relat.   Months   $1000?    >1/2? --------
 26¦                                                                --------
 27¦                                                                --------
 28¦                           Enter number of other dependents   >        0
 29¦       e>Total number of exemptions claimed                  e:        1
 30¦------------------------------------------------------------------------
 31¦INCOME   7  Wages, salaries, tips, etc.                      7>    30000
 32¦         8  Interest income                                  8>      700
```

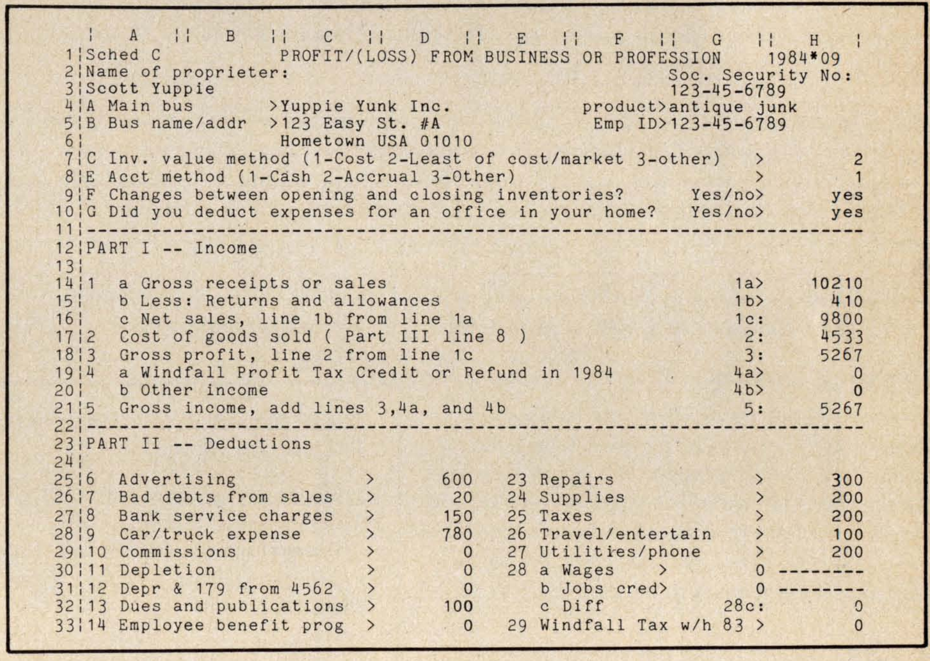
Figure 1. *The 1040 spreadsheet from USTAX84 is very similar to the pre-printed form.*

USTAX84 imposes no restrictions on the order in which you enter data onto schedules and forms. You can start anywhere and calculate to completion any spreadsheet. This freedom means more manual copying of entries, but less switching from one schedule or form to another in order to try "what if" calculations.



```
  ¦   A   ¦¦   B   ¦¦   C   ¦¦   D   ¦¦   E   ¦¦   F   ¦¦   G   ¦¦   H   ¦
 1¦Sched B           INTEREST AND DIVIDEND INCOME                   1984*08
 2¦Name(s):                                               Soc. Security no:
 3¦Scott Yuppie                                          123-45-6789
 4¦
 5¦------------------------------------------------------------------------
 6¦Part I   1  Interest income from seller financed mortgages
 7¦Interest    (show name of payer)
 8¦Income         >                                              1>        0
 9¦         2  Other interest income (list)
10¦               >  Crock National Bank                         2>      200
11¦               >  Pony Express Savings & Loan                 2>      500
12¦               >                                              2>        0
13¦               >                                              2>        0
14¦               >                                              2>        0
15¦               >                                              2>        0
16¦               >                                              2>        0
17¦               >                                              2>        0
18¦               >                                              2>        0
19¦               >                                              2>        0
20¦               >                                              2>        0
21¦               >                                              2>        0
22¦               >                                              2>        0
23¦               >                                              2>        0
24¦               >                                              2>        0
25¦         3  Add lines 1 and 2.  Enter on 1040, line 8         3:      700
26¦
27¦------------------------------------------------------------------------
28¦Part II  4     >
29¦Dividend       >                                              4>        0
30¦Income         >                                              4>        0
31¦               >                                              4>        0
32¦               >                                              4>        0
```

Figure 2. *The Schedule B spreadsheet from USTAX84 (interest and dividend income).*



```
  ¦   A   ¦¦   B   ¦¦   C   ¦¦   D   ¦¦   E   ¦¦   F   ¦¦   G   ¦¦   H   ¦
 1¦Sched C           PROFIT/(LOSS) FROM BUSINESS OR PROFESSION     1984*09
 2¦Name of proprieter:                                    Soc. Security No:
 3¦Scott Yuppie                                          123-45-6789
 4¦A Main bus       >Yuppie Yunk Inc.             product>antique junk
 5¦B Bus name/addr  >123 Easy St. #A               Emp ID>123-45-6789
 6¦                  Hometown USA 01010
 7¦C Inv. value method (1-Cost 2-Least of cost/market 3-other)    >        2
 8¦E Acct method (1-Cash 2-Accrual 3-Other)                       >        1
 9¦F Changes between opening and closing inventories?      Yes/no>      yes
10¦G Did you deduct expenses for an office in your home?   Yes/no>      yes
11¦------------------------------------------------------------------------
12¦PART I -- Income
13¦
14¦1  a Gross receipts or sales                                 1a>    10210
15¦   b Less: Returns and allowances                            1b>      410
16¦   c Net sales, line 1b from line 1a                         1c:     9800
17¦2  Cost of goods sold ( Part III line 8 )                     2:     4533
18¦3  Gross profit, line 2 from line 1c                          3:     5267
19¦4  a Windfall Profit Tax Credit or Refund in 1984            4a>        0
20¦   b Other income                                            4b>        0
21¦5  Gross income, add lines 3,4a, and 4b                       5:     5267
22¦------------------------------------------------------------------------
23¦PART II -- Deductions
24¦
25¦6  Advertising             >       600  23 Repairs              >      300
26¦7  Bad debts from sales    >        20  24 Supplies             >      200
27¦8  Bank service charges    >       150  25 Taxes                >      200
28¦9  Car/truck expense       >       780  26 Travel/entertain     >      100
29¦10 Commissions             >         0  27 Utilities/phone      >      200
30¦11 Depletion               >         0  28 a Wages     >        0 --------
31¦12 Depr & 179 from 4562    >         0     b Jobs cred>         0 --------
32¦13 Dues and publications   >       100     c Diff            28c:        0
33¦14 Employee benefit prog   >         0  29 Windfall Tax w/h 83 >        0
```

Figure 3. *The Schedule C spreadsheet in the USTAX84 package looks like the pre-printed form but performs the calculations for you.*

Using USTAX84

You might start using USTAX84 by filling out the 1040 spreadsheet. Enter a 1 next to the appropriate filing status, leaving zeroes next to the ones not selected. Also enter a 1 next to any appropriate exemptions (see figure 1).

At line 8, interest income, you can simply fill in a total and move on if your total is less than $400; otherwise the IRS requires you to fill out Schedule B for interest income over $400. Leaving the cursor on this line of the 1040 spreadsheet, you can save the 1040 in a new file with the `/S` command, clear memory with the `/Z` (zap) command, and load a blank Schedule B spreadsheet from a backup copy of the distribution disk with the `/L` command.

Schedule B (see figure 2) includes a section for dividend income as well as one for interest income. There is plenty of room to add text descriptions of items. The spreadsheet resembles the form itself, and the total for the interest income section is the amount you need for your 1040 spreadsheet (line 8).

While in Schedule B you can supply information about dividend income, and note down the total from this section for your 1040 spreadsheet (line 9a).

After filling out and saving Schedule B in a new file, you can "zap" memory with the `/Z` command and load your previously saved 1040 spreadsheet. After loading, SuperCalc leaves the cursor at the position it was in when you last saved the spreadsheet. This makes it easy to leave one spreadsheet, use another, and, upon returning to the first one, find yourself at the same place.

Back in the 1040 spreadsheet, you put the amounts from Schedule B on lines 8 and 9a, and fill out 9b (the spreadsheet calculates 9c), and then move on to lines 10 and 11. At line 12 switch to Schedule C: first save the 1040 spreadsheet (with the cursor on line 12), then zap memory, and finally load a blank copy of the Schedule C spreadsheet from the backup distribution disk.

Our example Schedule C (business profit/loss) shows a small antique buying/selling business operated out of the individual's home (figure 3). Remember, these examples are *not* recommended filing procedures — they are merely examples of the calculations the spreadsheet can perform. The "cost of goods" line is calculated for you when you go to the bottom of the spreadsheet and fill in the beginning inventory, purchases and other

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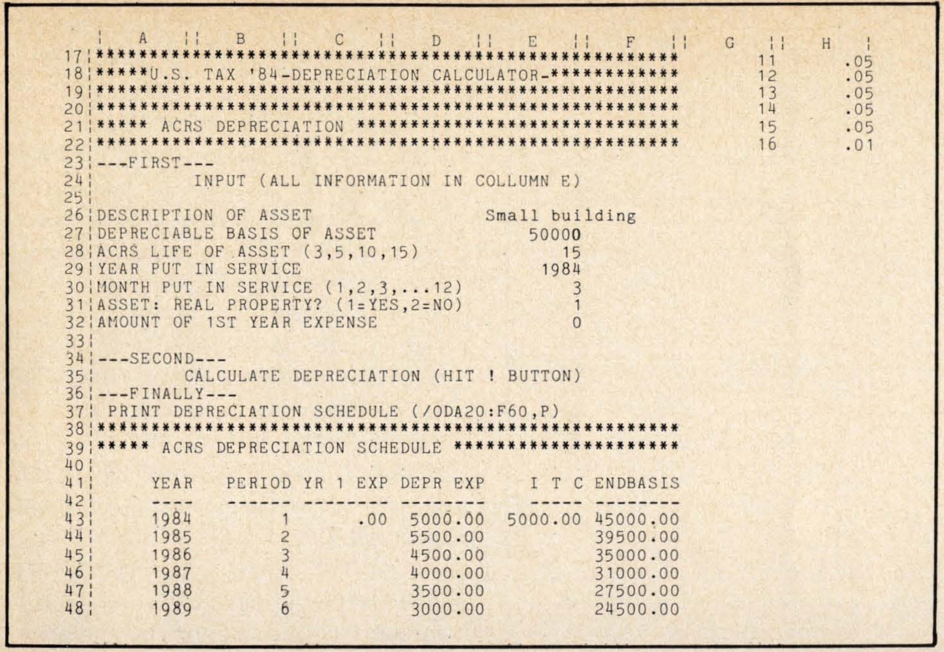
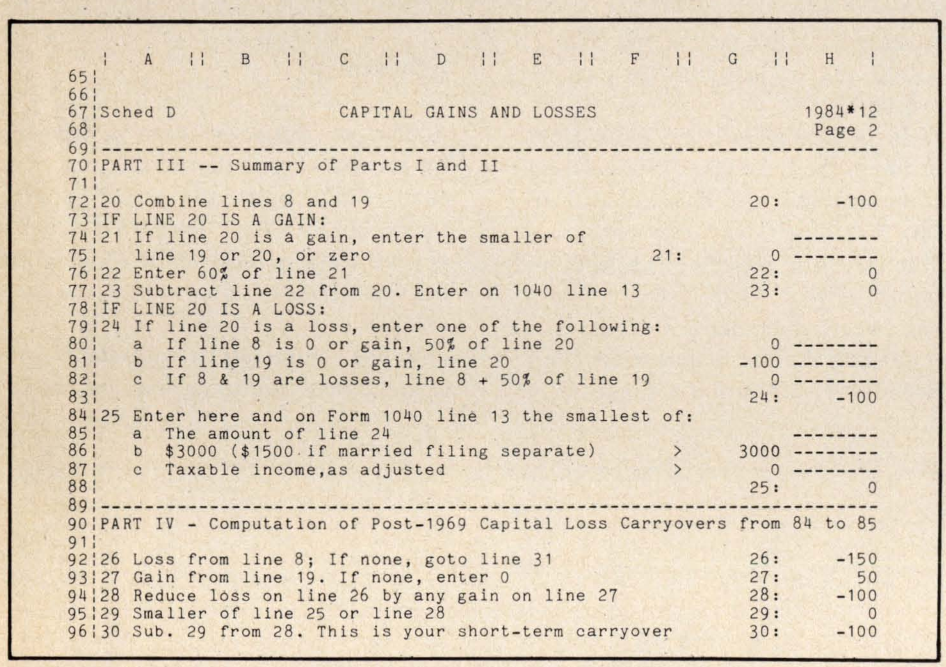


```
   ¦   A   ¦¦   B   ¦¦   C   ¦¦   D   ¦¦   E   ¦¦   F   ¦¦   G   ¦¦   H   ¦
 17¦*****************************************************       11     .05
 18¦*****U.S. TAX '84-DEPRECIATION CALCULATOR-************       12     .05
 19¦*****************************************************       13     .05
 20¦*****************************************************       14     .05
 21¦***** ACRS DEPRECIATION ******************************       15     .05
 22¦*****************************************************       16     .01
 23¦---FIRST---
 24¦         INPUT (ALL INFORMATION IN COLLUMN E)
 25¦
 26¦DESCRIPTION OF ASSET                    Small building
 27¦DEPRECIABLE BASIS OF ASSET                   50000
 28¦ACRS LIFE OF ASSET (3,5,10,15)                  15
 29¦YEAR PUT IN SERVICE                           1984
 30¦MONTH PUT IN SERVICE (1,2,3,...12)               3
 31¦ASSET: REAL PROPERTY? (1=YES,2=NO)               1
 32¦AMOUNT OF 1ST YEAR EXPENSE                       0
 33¦
 34¦---SECOND---
 35¦        CALCULATE DEPRECIATION (HIT ! BUTTON)
 36¦---FINALLY---
 37¦ PRINT DEPRECIATION SCHEDULE (/ODA20:F60,P)
 38¦*****************************************************
 39¦***** ACRS DEPRECIATION SCHEDULE *********************
 40¦
 41¦     YEAR   PERIOD YR 1 EXP DEPR EXP    I T C ENDBASIS
 42¦     ----   ------ -------- --------    ----- --------
 43¦     1984        1      .00  5000.00  5000.00 45000.00
 44¦     1985        2           5500.00          39500.00
 45¦     1986        3           4500.00          35000.00
 46¦     1987        4           4000.00          31000.00
 47¦     1988        5           3500.00          27500.00
 48¦     1989        6           3000.00          24500.00
```

Figure 4. *The USTAX84 package includes a depreciation spreadsheet that performs ACRS (shown here), declining balance and SYD schedule computations.*



```
   ¦   A   ¦¦   B   ¦¦   C   ¦¦   D   ¦¦   E   ¦¦   F   ¦¦   G   ¦¦   H   ¦
 65¦
 66¦
 67¦Sched D                 CAPITAL GAINS AND LOSSES                1984*12
 68¦                                                                 Page 2
 69¦--------------------------------------------------------------------------
 70¦PART III -- Summary of Parts I and II
 71¦
 72¦20 Combine lines 8 and 19                                   20:     -100
 73¦IF LINE 20 IS A GAIN:
 74¦21 If line 20 is a gain, enter the smaller of                    --------
 75¦   line 19 or 20, or zero                          21:         0 --------
 76¦22 Enter 60% of line 21                                     22:        0
 77¦23 Subtract line 22 from 20. Enter on 1040 line 13          23:        0
 78¦IF LINE 20 IS A LOSS:
 79¦24 If line 20 is a loss, enter one of the following:
 80¦   a  If line 8 is 0 or gain, 50% of line 20                   0 --------
 81¦   b  If line 19 is 0 or gain, line 20                      -100 --------
 82¦   c  If 8 & 19 are losses, line 8 + 50% of line 19            0 --------
 83¦                                                            24:     -100
 84¦25 Enter here and on Form 1040 line 13 the smallest of:
 85¦   a  The amount of line 24                                      --------
 86¦   b  $3000 ($1500 if married filing separate)       >      3000 --------
 87¦   c  Taxable income,as adjusted                     >         0 --------
 88¦                                                            25:        0
 89¦--------------------------------------------------------------------------
 90¦PART IV - Computation of Post-1969 Capital Loss Carryovers from 84 to 85
 91¦
 92¦26 Loss from line 8; If none, goto line 31                  26:     -150
 93¦27 Gain from line 19. If none, enter 0                      27:       50
 94¦28 Reduce loss on line 26 by any gain on line 27            28:     -100
 95¦29 Smaller of line 25 or line 28                            29:        0
 96¦30 Sub. 29 from 28. This is your short-term carryover       30:     -100
```

Figure 5. *The second page of the Schedule D spreadsheet in the USTAX84 package shows the calculated totals for the 1040 Form and chooses the appropriate amount for line 24.*

costs, and ending inventory amounts.

The Schedule C spreadsheet looks just like the paper version but performs all the subtotal and total calculations, and automatically copies the cost of goods value from the bottom of the spreadsheet to the top.

The Schedule C spreadsheet does not calculate depreciation. You can use two spreadsheets included in the package for calculating depreciation. The first calculates depreciation using the ACRS method (figure 4), the declining balance method and the SYD schedule method. The second one does straight-line depreciation. After calculating depreciation, transfer the figures to the blank Form 4562 spreadsheet to include with your return.

When you finish Schedule C you can note the calculated profit to copy to your 1040, then save this spreadsheet in a new file, zap memory, and load a blank copy of Schedule D to report any capital gain or loss.

The Schedule D spreadsheet calculates the gain or loss based on entries you type. A Form 2119 spreadsheet is provided for computing short-term gain from the sale or exchange of your principal residence.

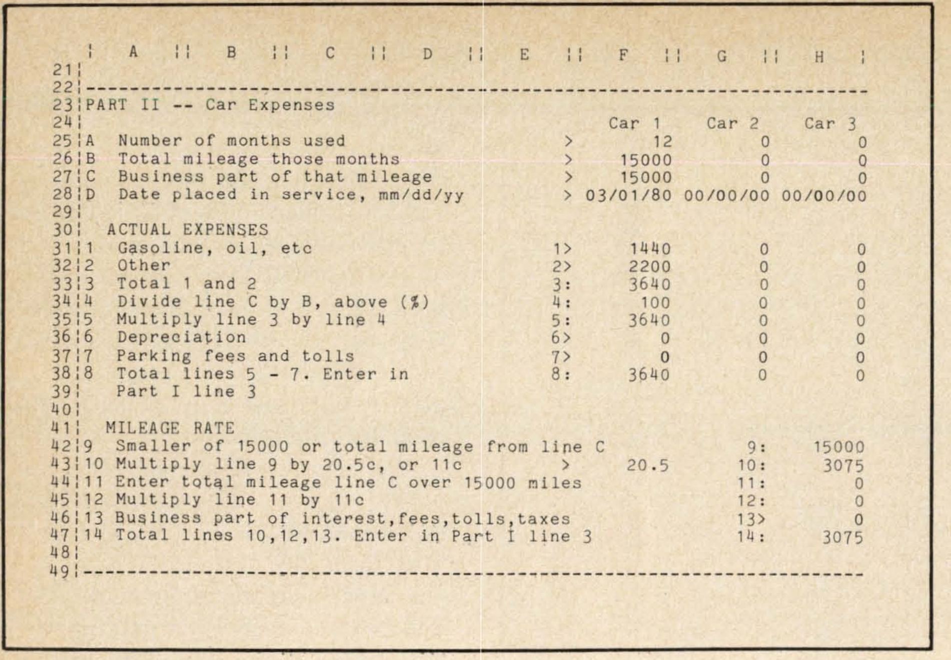
The Schedule D spreadsheet is two pages long; the second page (figure 5) shows the calculated totals for your 1040 form. The spreadsheet displays computed subtotals for lines 24a, 24b and 24c, and chooses the appropriate amount for line 24. It also calculates the post-1969 long-term carryover to 1985 (to use with your 1985 return). Filling out the Schedule D spreadsheet is much less time consuming than filling it out on paper with a calculator.

Schedule E (rents, royalties from properties) is easy to fill out, and it sums depreciation amounts, but it does not compute depreciation. Schedule F (farm income) is not included, nor is Form 3903 (moving expenses).

Form 2106 (employee business expenses) is included and is very easy to fill out. The spreadsheet uses a mileage rate of 20.5 cents/mile (see figure 6). If you need to change it to 11 cents, you can use the `/U` command to unprotect the cell and change the rate. The spreadsheet does not automatically display the car expenses (line 3 of Part 1); you must choose either the actual expenses or the mileage rate computation. This is consistent with the paper form, although the spreadsheet could (but doesn't) display the larger of the two values.

With these schedules filled out you can complete the first page of your 1040 spreadsheet. The 1040 automatically calculates the total income (line 23) and adjusted gross income (line 32) unless you set the spreadsheet to manual recalculation (in which case you type an exclamation point to recalculate the spreadsheet).

To itemize deductions, fill out the



```
   ¦  A  ¦¦  B  ¦¦  C  ¦¦  D  ¦¦  E  ¦¦  F  ¦¦  G  ¦¦  H  ¦
 21¦
 22¦-----------------------------------------------------------------------
 23¦PART II -- Car Expenses
 24¦                                                 Car 1    Car 2    Car 3
 25¦A  Number of months used                   >        12        0        0
 26¦B  Total mileage those months              >     15000        0        0
 27¦C  Business part of that mileage           >     15000        0        0
 28¦D  Date placed in service, mm/dd/yy        > 03/01/80 00/00/00 00/00/00
 29¦
 30¦  ACTUAL EXPENSES
 31¦1  Gasoline, oil, etc                     1>      1440        0        0
 32¦2  Other                                  2>      2200        0        0
 33¦3  Total 1 and 2                          3:      3640        0        0
 34¦4  Divide line C by B, above (%)          4:       100        0        0
 35¦5  Multiply line 3 by line 4              5:      3640        0        0
 36¦6  Depreciation                           6>         0        0        0
 37¦7  Parking fees and tolls                 7>         0        0        0
 38¦8  Total lines 5 - 7. Enter in            8:      3640        0        0
 39¦   Part I line 3
 40¦
 41¦  MILEAGE RATE
 42¦9  Smaller of 15000 or total mileage from line C          9:      15000
 43¦10 Multiply line 9 by 20.5c, or 11c        >      20.5   10:       3075
 44¦11 Enter total mileage line C over 15000 miles           11:          0
 45¦12 Multiply line 11 by 11c                               12:          0
 46¦13 Business part of interest,fees,tolls,taxes            13>          0
 47¦14 Total lines 10,12,13. Enter in Part I line 3          14:       3075
 48¦
 49¦-----------------------------------------------------------------------
```

Figure 6. *The automobile expenses section of the 2106 Form included in the USTAX84 package. You can change the 20.5 cents/mile by unprotecting the cell and typing a new cents/mile rate.*

Schedule A spreadsheet. Enter your filing status in the summary section and the spreadsheet applies the proper exclusion amount. You can try another filing status and compare results.

If you choose not to itemize deductions, you can put your total charitable contributions on line 34b and the 1040 spreadsheet automatically computes your tax.

If you itemized using Schedule A, copy the amount to the 1040 spreadsheet (line 34a) and the spreadsheet computes your tax (see figure 7) based on the Tax Table, or on the Tax Rate Schedules X, Y, and Z. The selection is made for you based on your taxable income and filing status, but you can change the selection by typing a 1 next to the selection you want, and changing the other 1 to a 0 (zero).

At this point you can try income averaging. Save the 1040, zap memory, and load Schedule G. Using past returns ('81, '82 and '83) fill out Schedule G. If you have an "averageable income" of less than $3000, you are ineligible for income averaging.

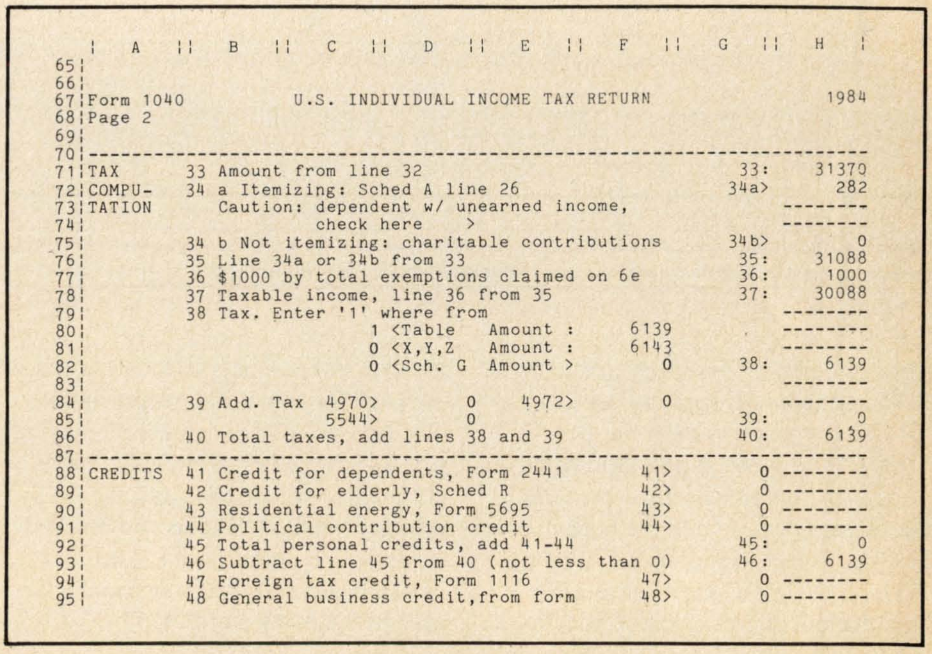
If the averageable income is $3000 or more, the Schedule G spreadsheet computes your tax. You should then save Schedule G and copy the tax amount to the Schedule G selection of line 38 of your 1040. You can then "de-select" the other tax selection (changing the 1 to 0) and select the Schedule G tax with a 1. Figure 7 shows the tax before selecting Schedule G; figure 8 shows the new Schedule G tax.

The USTAX84 package has a Form 2441 spreadsheet (child and dependent care expenses), but not Form 5695 (residential energy credit), nor any of the forms for general business credits. Schedule SE (social security self-employment tax) is easy to use and includes the optional farm and non-farm tax computing methods (figure 9). There are no spreadsheets for the alternative minimum tax, for recapture of investment credit, for social security tax on tip income, or for taxes on an IRA.

The 1040 spreadsheet finishes with other taxes and payments, and it calculates the total tax and the amount you should pay (or, if good luck prevails, the amount to be refunded to you).

Assessment

The only major criticism we have for this package is that it does not come with a command (".XQT") file that could provide a link between the spreadsheets, automatically copying the totals from each spreadsheet to the 1040 spreadsheet. SuperCalc2 provides the commands to implement this, but you need to have an intimate



```
   ¦  A  ¦¦  B  ¦¦  C  ¦¦  D  ¦¦  E  ¦¦  F  ¦¦  G  ¦¦  H  ¦
 65¦
 66¦
 67¦Form 1040         U.S. INDIVIDUAL INCOME TAX RETURN                 1984
 68¦Page 2
 69¦
 70¦-----------------------------------------------------------------------
 71¦TAX         33 Amount from line 32                         33:    31370
 72¦COMPU-      34 a Itemizing: Sched A line 26               34a>      282
 73¦TATION         Caution: dependent w/ unearned income,            --------
 74¦                         check here    >                         --------
 75¦            34 b Not itemizing: charitable contributions  34b>        0
 76¦            35 Line 34a or 34b from 33                     35:    31088
 77¦            36 $1000 by total exemptions claimed on 6e     36:     1000
 78¦            37 Taxable income, line 36 from 35             37:    30088
 79¦            38 Tax. Enter '1' where from                         --------
 80¦                          1 <Table   Amount :      6139         . --------
 81¦                          0 <X,Y,Z   Amount :      6143           --------
 82¦                          0 <Sch. G  Amount >         0    38:     6139
 83¦                                                                  --------
 84¦            39 Add. Tax  4970>        0    4972>      0           --------
 85¦                         5544>        0                    39:        0
 86¦            40 Total taxes, add lines 38 and 39             40:     6139
 87¦-----------------------------------------------------------------------
 88¦CREDITS     41 Credit for dependents, Form 2441      41>         0 --------
 89¦            42 Credit for elderly, Sched R           42>         0 --------
 90¦            43 Residential energy, Form 5695         43>         0 --------
 91¦            44 Political contribution credit         44>         0 --------
 92¦            45 Total personal credits, add 41-44                45:        0
 93¦            46 Subtract line 45 from 40 (not less than 0)       46:     6139
 94¦            47 Foreign tax credit, Form 1116         47>         0 --------
 95¦            48 General business credit,from form     48>         0 --------
```

Figure 7. *The USTAX84 1040 Form automatically selects the appropriate tax table or schedule based on your filing status, although you can change the selection to make "what if" calculations.*

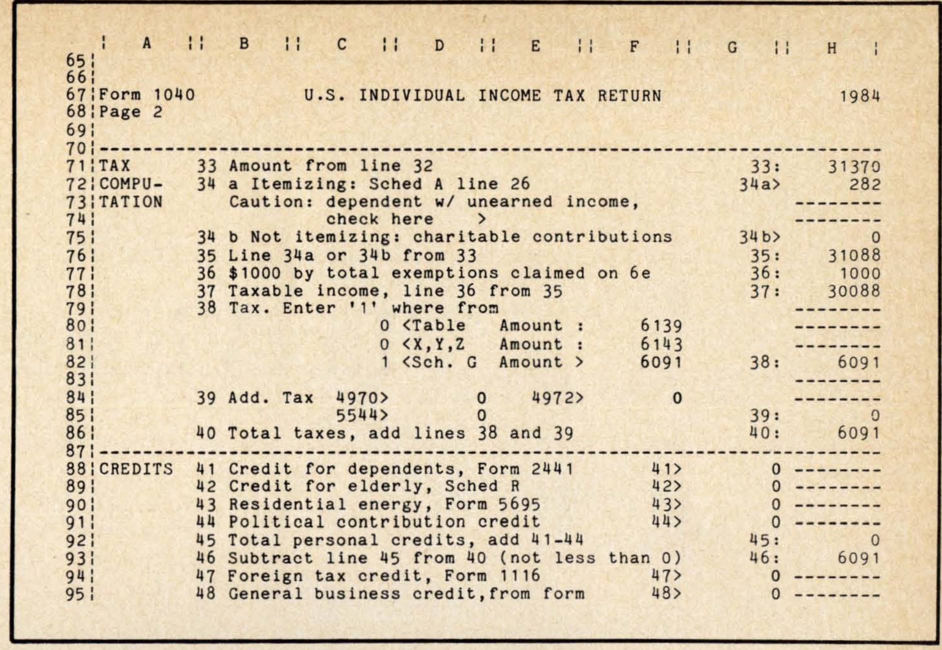
knowledge of the formulas and cell ranges to know how to perform complex operations such as the arithmetic consolidation feature of the /L (load) command.

Quantum Resources could improve this package for 1985 by providing an ".XQT" file that copied the data back to the 1040. However, for its low price, the package performs quite well, and the need to note down totals and switch spreadsheets are minor inconveniences.

To their credit, they do provide an ".XQT" file that prints the various spreadsheets properly so that you don't print the formulas and scratchpad areas.

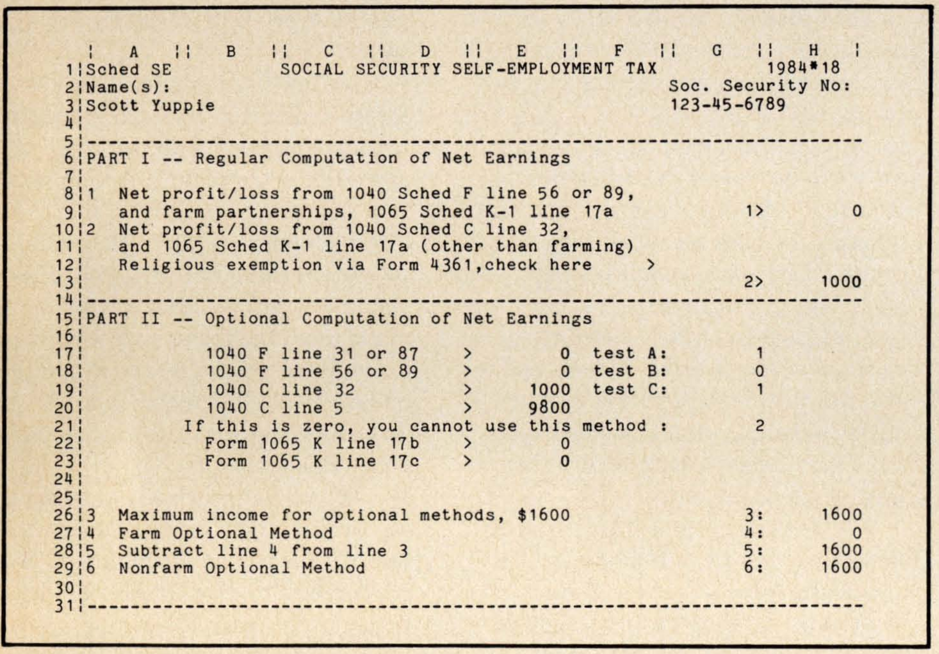
USTAX84 has more schedules and forms and is better organized than TAX2, but has scant documentation. If you use both SuperCalc and Perfect Calc, you may prefer SuperCalc and USTAX84 because it runs much faster, even with "global recalculation mode" left on automatic.

However, due to SuperCalc's limitations, USTAX84 does not link spreadsheets — you have to enter numbers manually on the 1040 spreadsheet. This can make the task more time consuming but it also gives you freedom to start anywhere and calculate any spreadsheet without affecting the others. You can also go right to the 1040 Form and make approximate entries in order to calculate "what if" situations. For this reason we conclude that USTAX84 works well as a tax planning tool, and for SuperCalc users it is probably the most complete and best organized spreadsheet template for 1984 income tax preparation.



```
  ¦    A   ¦¦    B   ¦¦    C   ¦¦    D   ¦¦    E   ¦¦    F   ¦¦    G   ¦¦    H   ¦
65¦
66¦
67¦Form 1040          U.S. INDIVIDUAL INCOME TAX RETURN                1984
68¦Page 2
69¦
70¦------------------------------------------------------------------------
71¦TAX      33 Amount from line 32                             33:    31370
72¦COMPU-   34 a Itemizing: Sched A line 26                   34a>      282
73¦TATION      Caution: dependent w/ unearned income,              --------
74¦                     check here    >                              --------
75¦         34 b Not itemizing: charitable contributions      34b>        0
76¦         35 Line 34a or 34b from 33                         35:    31088
77¦         36 $1000 by total exemptions claimed on 6e         36:     1000
78¦         37 Taxable income, line 36 from 35                 37:    30088
79¦         38 Tax. Enter '1' where from                             --------
80¦                          0 <Table   Amount :     6139          --------
81¦                          0 <X,Y,Z   Amount :     6143          --------
82¦                          1 <Sch. G  Amount >     6091      38:     6091
83¦                                                                --------
84¦         39 Add. Tax  4970>        0    4972>        0          --------
85¦                      5544>        0                        39:        0
86¦         40 Total taxes, add lines 38 and 39                40:     6091
87¦------------------------------------------------------------------------
88¦CREDITS  41 Credit for dependents, Form 2441       41>        0 --------
89¦         42 Credit for elderly, Sched R            42>        0 --------
90¦         43 Residential energy, Form 5695          43>        0 --------
91¦         44 Political contribution credit          44>        0 --------
92¦         45 Total personal credits, add 41-44               45:        0
93¦         46 Subtract line 45 from 40 (not less than 0)      46:     6091
94¦         47 Foreign tax credit, Form 1116          47>        0 --------
95¦         48 General business credit,from form      48>        0 --------
```

Figure 8. *On the USTAX84 1040 Form you can change your tax calculation to use the Schedule G tax calculated from the Schedule G spreadsheet.*



```
  ¦    A   ¦¦    B   ¦¦    C   ¦¦    D   ¦¦    E   ¦¦    F   ¦¦    G   ¦¦    H   ¦
 1¦Sched SE          SOCIAL SECURITY SELF-EMPLOYMENT TAX          1984*18
 2¦Name(s):                                              Soc. Security No:
 3¦Scott Yuppie                                          123-45-6789
 4¦
 5¦------------------------------------------------------------------------
 6¦PART I -- Regular Computation of Net Earnings
 7¦
 8¦1  Net profit/loss from 1040 Sched F line 56 or 89,
 9¦   and farm partnerships, 1065 Sched K-1 line 17a            1>        0
10¦2  Net profit/loss from 1040 Sched C line 32,
11¦   and 1065 Sched K-1 line 17a (other than farming)
12¦   Religious exemption via Form 4361,check here     >
13¦                                                             2>     1000
14¦------------------------------------------------------------------------
15¦PART II -- Optional Computation of Net Earnings
16¦
17¦           1040 F line 31 or 87    >        0  test A:        1
18¦           1040 F line 56 or 89    >        0  test B:        0
19¦           1040 C line 32          >     1000  test C:        1
20¦           1040 C line 5           >     9800
21¦         If this is zero, you cannot use this method :        2
22¦           Form 1065 K line 17b    >        0
23¦           Form 1065 K line 17c    >        0
24¦
25¦
26¦3  Maximum income for optional methods, $1600                3:     1600
27¦4  Farm Optional Method                                      4:        0
28¦5  Subtract line 4 from line 3                               5:     1600
29¦6  Nonfarm Optional Method                                   6:     1600
30¦
31¦------------------------------------------------------------------------
```

Figure 9. *The USTAX84 package includes Schedule SE (self-employment tax) and computes the tax using farm and non-farm methods.*

Unlike linked spreadsheets that must be calculated in a special order, USTAX84 imposes no restrictions on the order in which you enter data onto schedules and forms. You can start anywhere and calculate to completion any spreadsheet.

CP/M-80 •
CP/M-86 •
PC-DOS •
MS-DOS •

TaxVision

A complete tax preparation package for Multiplan users.

by Tony Bove & Cheryl Rhodes

TaxVision is by Vision Information Products, Inc. (5500 Atherton St. Suite 306, Long Beach, CA 90815); it requires Multiplan® (Microsoft Inc.). It runs on any CP/M computer with 64K of RAM, or on an Apple II, II+ or IIe computer or Commodore 64 computer with 64K of RAM, or on an IBM PC or PC-compatible computer or Apple Macintosh with 128K of RAM. One floppy disk drive is necessary but causes some inconvenience; one hard disk drive or two floppy disk drives are sufficient.

Price: **89.00** for the complete package including tax forms and schedules ready for printing.

This TaxVision package is the most complete of all the ones we reviewed. It is also nearly twice the price of the other spreadsheet templates yet still in the range for individuals (but much less expensive than ones designed for CPAs to prepare client returns).

TaxVision is a set of linked spreadsheets, each one corresponding to a specific form or schedule that can be printed for the IRS. The spreadsheets can pass data automatically to other forms and schedules that require it. Multiplan can automatically recalculate the tax on all the appropriate forms and schedules even if you make only one change.

TaxVision is a nearly complete package of forms and schedules and it also lets you create and link supporting spreadsheets such as a check register, a year-long expense log or other supporting document.

The TaxVision spreadsheets are designed small to fit in the smallest system configuration that can use Multiplan. Although some schedules require more than one spreadsheet, this design makes the loading process much faster, and also makes it possible to use the spreadsheets on different systems. If you want to expand a spreadsheet, there is usually plenty of memory available.

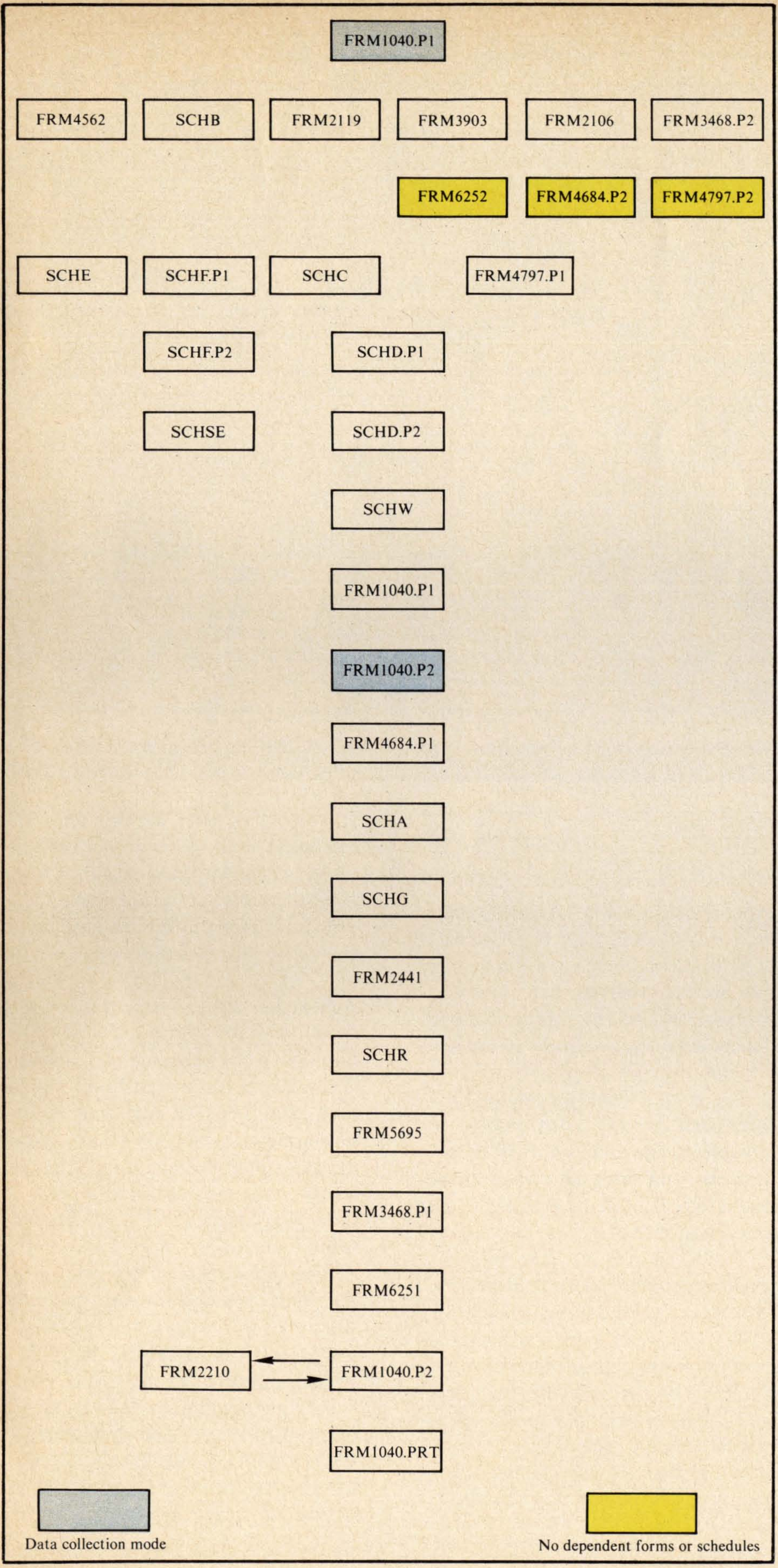
TaxVision can print forms and schedules acceptable to the IRS and it can print directly onto a 1040 Form. The package comes with ten copies of the 1040 Form on continuous paper that fits most standard printers, and one-half inch "green bar" continuous paper for printing schedules and forms.

The TaxVision manual is much larger and better organized than the manuals supplied with the other spreadsheet templates (it is supplied in a standard 3-ring binder). It has an introduction, a section with general information about the template, a tutorial in preparing a return, a reference guide to all the forms and schedules, examples of printouts, and suggestions on how to modify and expand the TaxVision spreadsheets to customize your tax preparation.

The manual provides a map showing the hierarchy of spreadsheets and how data is passed among them. We condensed this map to show the relationships in figure 1.

You must chart a course through the schedules and forms you need as they are presented on this map. It is important to follow this course when you enter data and save the spreadsheets — failure to save the spreadsheets in proper order could mean a miscalculation of your return. Fortunately the course is logical and saving spreadsheets is easy to do with Multiplan.

Figure 1. *A map showing the hierarchy of the TaxVision spreadsheets.*


FRM1040.P1
FRM4562
SCHB
FRM2119
FRM3903
FRM2106
FRM3468.P2
FRM6252
FRM4684.P2
FRM4797.P2
SCHE
SCHF.P1
SCHC
FRM4797.P1
SCHF.P2
SCHD.P1
SCHSE
SCHD.P2
SCHW
FRM1040.P1
FRM1040.P2
FRM4684.P1
SCHA
SCHG
FRM2441
SCHR
FRM5695
FRM3468.P1
FRM6251
FRM2210
FRM1040.P2
FRM1040.PRT
Data collection mode
No dependent forms or schedules

Using TaxVision

TaxVision is set up so that you enter data in only one place — on the appropriate electronic form or schedule. Even if you use only one line of a schedule or form (some schedules and forms are not required if you need only one line), TaxVision is set up so that you must enter the information onto the form or schedule that would normally accept it.

This reduces what the manual calls "data redundancy" and makes it easier for you to change information in your return by changing it only in one place. The program then recalculates the entire return.

One benefit of this approach is that you type your name and social security number in one place, on page 1 of the 1040 spreadsheet, and it is copied to the appropriate forms and schedules so that if you need to make a change, you can make it in one place.

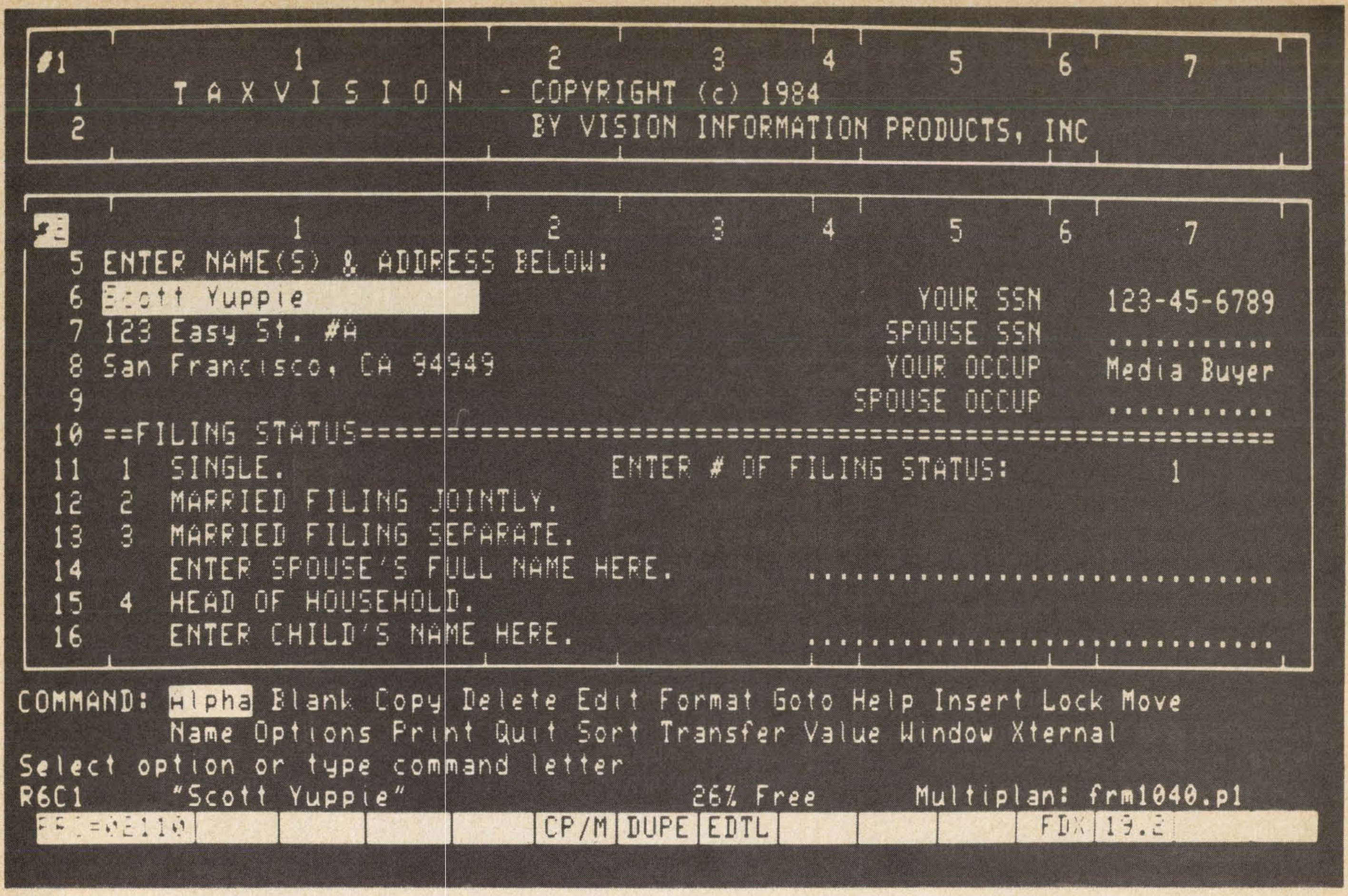
When you start Multiplan, you should immediately turn off the automatic recalculation feature with the `Options` command. The first prompt is for recalculation — set this to `N` for no recalculation. If you don't, data entry will be much slower than it needs to be.

Entering data is easy because you can move from one unlocked field to the next by typing Control-`F`. When you reach the last unlocked field, Control-`F` puts you back to the first unlocked field.

As you move down the map of spreadsheets entering data, saving spreadsheets, and loading new spreadsheets, Multiplan copies data from preceding saved spreadsheets into the one you are currently loading.

You start with the spreadsheet for page one of the 1040 Form, which is FRM1040.P1 (figure 2). The spreadsheet was saved with two windows — one holding the title of the program, the other holding the actual form.

Fill in your name, social security and filing status by moving to the fields with Control-`F` commands and entering the appropriate data. Control-`F` skips over locked fields that rely on data from other forms and schedules.



```
#1          1                    2          3      4         5       6        7
  1     T A X V I S I O N  - COPYRIGHT (c) 1984
  2                              BY VISION INFORMATION PRODUCTS, INC

#2          1                    2          3      4         5       6        7
  5 ENTER NAME(S) & ADDRESS BELOW:
  6 Scott Yuppie                                               YOUR SSN    123-45-6789
  7 123 Easy St. #A                                          SPOUSE SSN    ...........
  8 San Francisco, CA 94949                                  YOUR OCCUP    Media Buyer
  9                                                        SPOUSE OCCUP    ...........
 10 ==FILING STATUS=================================================================
 11  1  SINGLE.                          ENTER # OF FILING STATUS:             1
 12  2  MARRIED FILING JOINTLY.
 13  3  MARRIED FILING SEPARATE.
 14     ENTER SPOUSE'S FULL NAME HERE.              ...........................
 15  4  HEAD OF HOUSEHOLD.
 16     ENTER CHILD'S NAME HERE.                    ...........................
COMMAND: Alpha Blank Copy Delete Edit Format Goto Help Insert Lock Move
         Name Options Print Quit Sort Transfer Value Window Xternal
Select option or type command letter
R6C1       "Scott Yuppie"                 26% Free      Multiplan: frm1040.pl
 FF1=0E110 |    |    |    |    | CP/M | DUPE | EDTL |    |    |    | FDX | 19.2
```

Figure 2. *Page 1 of the 1040 spreadsheet supplied with TaxVision.*

Paul Winternitz

When you get to interest expense, type an exclamation point (!) to recalculate the spreadsheet, then save the 1040 spreadsheet (type the Transfer Save command, with Y to overwrite the old spreadsheet). Load the Schedule B spreadsheet or any of the other spreadsheets in that row of the map (see the spreadsheet map in figure 1) by typing the Transfer Load command with the name of the spreadsheet file.

The Schedule B spreadsheet is very easy to fill out. All calculations are performed when you type an exclamation point. You can move through this form and others quickly. We also filled out Form 2106 (figure 3), which calculates employee business expenses.

The spreadsheet uses two windows. The first is an example of a Multiplan work space; it contains two questions relating to the optional mileage method of calculating car expenses. If business mileage exceeds 60,000 miles, the expense rate per mile on line 10 is lower. You control the rate by answering 0 or 1. Actual expenses and the mileage rate are not used together — the spreadsheet uses the appropriate one depending on your answer to the second question.

The second window contains the form itself. Simply type Control-F to move from one unlocked field to the next one, and enter data where appropriate. Recalculate by pressing !, then save the spreadsheet.

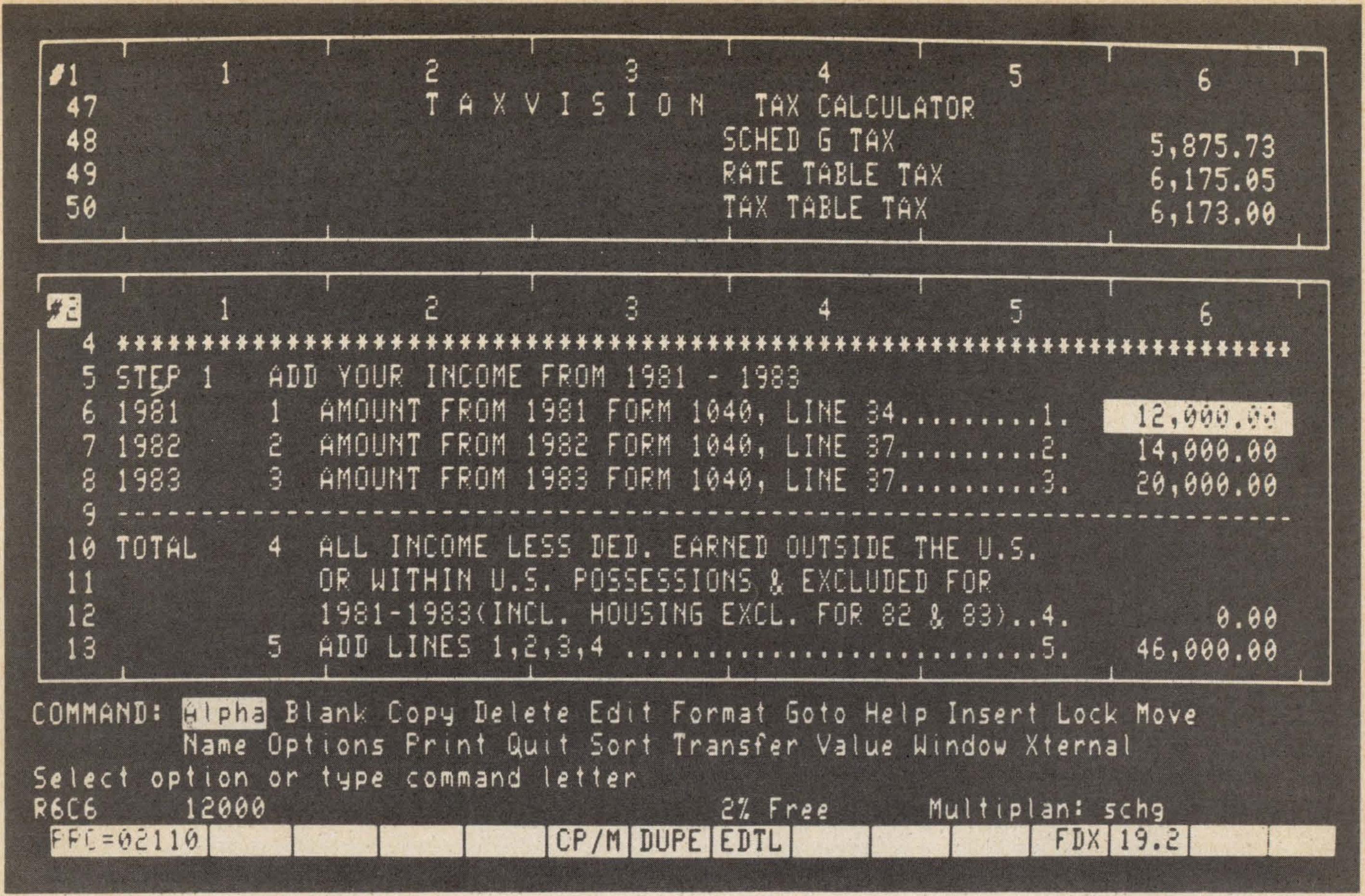
When you load the Schedule C (business profit/loss) spreadsheet, Multiplan copies data to it from the 1040 Form. Your name and social security number appears where they should be on the Schedule, but since your spouse would have to file a separate Schedule C, the entries are unlocked so that you can change it to your spouse's name if you need to.

The depreciation expense (line 12) can be manually entered, or you can fill out Form 4562 and establish a link yourself using the Xternal command. This form is not linked because it could also be used for Schedules E and F.

Schedule E (supplemental income) should be filled out (if you need it) before filling out Schedule D. Schedule D consists of two spreadsheets, one for each page. The first page receives information from the 1040 Form, capital gains distributions from Schedule B and any gains from Forms 2119 (sale of residence) and 4797 (supplemental gains).

The spreadsheet contains a Schedule SE for you and for your spouse. If you make entries on both schedules, the spreadsheet calculates the sum, which is reported to the 1040 Form.

After recalculating and saving these spreadsheets, you should load FRM1040.P1, move through the unlocked entries filling in whatever is appropriate, then recalculate it and save



```
#1      1           2           3           4           5           6
 47                 T A X V I S I O N   TAX CALCULATOR
 48                                    SCHED G TAX                5,875.73
 49                                    RATE TABLE TAX             6,175.05
 50                                    TAX TABLE TAX              6,173.00

#2      1           2           3           4           5           6
  4 ***********************************************************************
  5 STEP 1    ADD YOUR INCOME FROM 1981 - 1983
  6 1981      1  AMOUNT FROM 1981 FORM 1040, LINE 34.........1.   12,000.00
  7 1982      2  AMOUNT FROM 1982 FORM 1040, LINE 37.........2.   14,000.00
  8 1983      3  AMOUNT FROM 1983 FORM 1040, LINE 37.........3.   20,000.00
  9 -----------------------------------------------------------------------
 10 TOTAL     4  ALL INCOME LESS DED. EARNED OUTSIDE THE U.S.
 11              OR WITHIN U.S. POSSESSIONS & EXCLUDED FOR
 12              1981-1983(INCL. HOUSING EXCL. FOR 82 & 83)..4.        0.00
 13           5  ADD LINES 1,2,3,4 ..........................5.   46,000.00

COMMAND: Alpha Blank Copy Delete Edit Format Goto Help Insert Lock Move
        Name Options Print Quit Sort Transfer Value Window Xternal
Select option or type command letter
R6C6      12000                          2% Free      Multiplan: schg
 FFC=02110|    |    |    |    |CP/M|DUPE|EDTL|    |    |    |FDX|19.2|    |
```

Paul Winternitz

Figure 3. *Form 2106 supplied with TaxVision, which uses two windows: the small one at the top for choosing the mileage calculation method, and the larger one containing the lines of the Form to enter data.*

it. You should then load FRM1040.P2 and recalculate and save it. After doing so you are ready to use Schedule A if you want to itemize deductions.

Schedule A receives data from the 1040 Form, Schedule D. In some situations you have to recalculate and save Schedule D again, and recalculate and save any other spreadsheets you used that are between Schedule D and Schedule A on the map. This does not take long to do and is only necessary when the spreadsheet displays an error message in the top window of Schedule A.

Schedule SE (self-employment tax) also employs two windows (figure 4). The first one shows income information copied from Schedules C, E and F. The income amounts are *not* automatically transferred to the appropriate lines on the Schedule because you may want to distribute the income between you and your spouse. It is very easy to copy the information from the cell shown in the window. The cells are also named so that you can refer to them using the Multiplan = command.

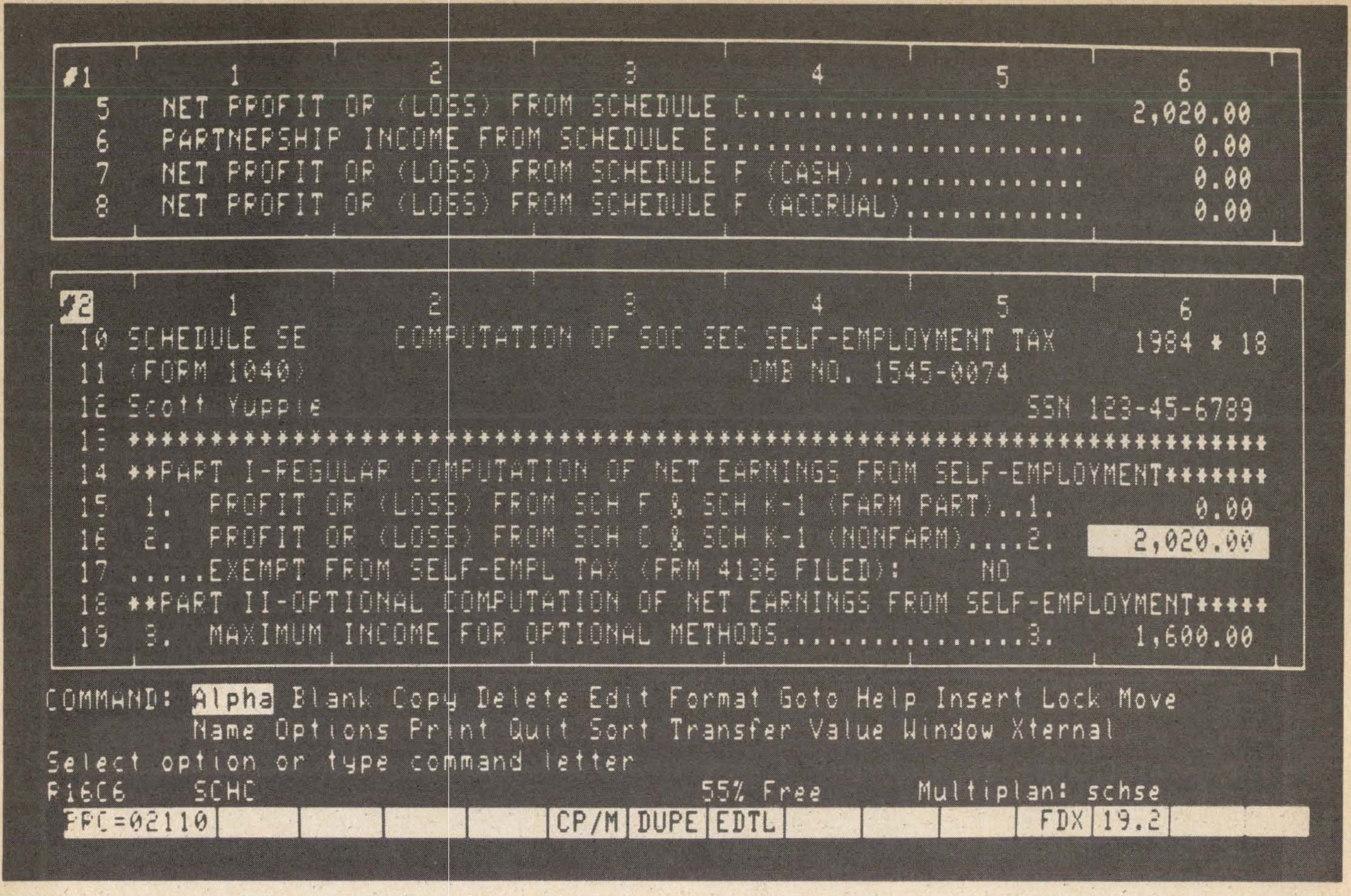
After saving Schedule A you can load Schedule G and compute your tax. Schedule G also contains the X, Y, and Z Tax Rate Schedules and the Standard Tax Table, so you *must* use this Schedule no matter what your tax situation is.

Schedule G receives a lot of information from the 1040 Form (page 2) and the itemized deductions from Schedule A. You can enter income from past years to determine if you can take advantage of income averaging. If you don't want to do income averaging, load and save Schedule G anyway, because it is necessary for computing your tax.

TaxVision has all the schedules and forms and it links them together in a logical order that anyone could follow without having to know a lot about income tax.

The top window of Schedule G shows you the tax computations using the three accepted methods. Unless you use income averaging, either the X, Y or Z rate schedule tax or the standard tax table tax will be valid depending on your adjusted gross income and filing status. If you use income averaging, the lowest tax is selected as the tax to be copied to the 1040 Form.

After recalculating and saving



```
#1      1             2              3              4              5              6
  5  NET PROFIT OR (LOSS) FROM SCHEDULE C......................  2,020.00
  6  PARTNERSHIP INCOME FROM SCHEDULE E........................      0.00
  7  NET PROFIT OR (LOSS) FROM SCHEDULE F (CASH)...............      0.00
  8  NET PROFIT OR (LOSS) FROM SCHEDULE F (ACCRUAL)............      0.00

#2      1             2              3              4              5              6
 10 SCHEDULE SE      COMPUTATION OF SOC SEC SELF-EMPLOYMENT TAX    1984 * 18
 11 (FORM 1040)                           OMB NO. 1545-0074
 12 Scott Yuppie                                         SSN 123-45-6789
 13 ****************************************************************
 14 **PART I-REGULAR COMPUTATION OF NET EARNINGS FROM SELF-EMPLOYMENT*******
 15  1.  PROFIT OR (LOSS) FROM SCH F & SCH K-1 (FARM PART)..1.        0.00
 16  2.  PROFIT OR (LOSS) FROM SCH C & SCH K-1 (NONFARM)....2.    2,020.00
 17 .....EXEMPT FROM SELF-EMPL TAX (FRM 4136 FILED):       NO
 18 **PART II-OPTIONAL COMPUTATION OF NET EARNINGS FROM SELF-EMPLOYMENT*****
 19  3.  MAXIMUM INCOME FOR OPTIONAL METHODS.................3.    1,600.00

COMMAND: Alpha Blank Copy Delete Edit Format Goto Help Insert Lock Move
         Name Options Print Quit Sort Transfer Value Window Xternal
Select option or type command letter
R16C6    SCHC                         55% Free      Multiplan: schse
 PPC=02110 |  |  |  |  |CP/M|DUPE|EDTL|  |  |  |FDX|19.2|  |
```

Paul Winternitz

Figure 4. *The Schedule SE spreadsheet supplied with TaxVision uses two windows: the top one shows income copied from other schedules, and the bottom one shows Schedule SE.*

Schedule G, you can use Form 2441, Schedule R, Form 5695, Form 3468 and Form 6251 if you need them. You should then load the 1040 Form again (page 2 — FRM1040.P2), recalculate it and save it.

If you need Form 2210 (underpayment of estimated tax), load it, enter the appropriate data and recalculate it, and then save it. Load the 1040 Form (page 2) again to record the penalty from Form 2210.

TaxVision can print forms and schedules acceptable to the IRS and it can print directly onto a 1040 Form.

At this point you can make "what if" calculations on any schedule or form, recalculate and save it, then recalculate and save the other schedules or forms you used in the order shown on the map.

The manual suggests that you print each spreadsheet as you finish it by typing the Print Printer command (you can "print" any spreadsheet to a disk file for use with a word processing program by typing the Print File command along with the name of the file to store the printout.

The TaxVision manual has an appendix devoted to expanding the spreadsheets which includes an example of adding a supporting statement to Schedule A to support charge account interest deductions. You can create such a supporting spreadsheet and link it to the main spreadsheet so that any changes in the supporting spreadsheet would affect the main one.

You can use this expansion technique to support any lines on any forms or schedules. You can also use it to create ledgers or registers to accumulate data throughout the year, and link them to the appropriate schedules and forms before starting to fill out your return.

When you finish your schedules and forms, recalculate, save, and print each one in the order suggested by the map (figure 1). Green-bar continuous paper is provided in the package for printing your final schedules and forms.

When you have your return as you want it, save the 1040 Form and load the file FRM1040.PRT. This spreadsheet copies all the pertinent data from the two 1040 spreadsheets into a blank template that prints directly on top of the pre-printed 1040 Forms supplied in the package.

Multiplan spreadsheets have defined print areas, so all you have to do to print a spreadsheet is use the `Print Printer` command. Some of the TaxVision spreadsheets have designated "work space" areas used to pass data among spreadsheets and to change the calculation method. Unless you change the preset print areas of the spreadsheets with the `Print Options` command, these areas are not printed in a normal `Print Printer` operation.

Assessment

TaxVision has all the schedules and forms and it links them together in a logical order that anyone could follow without having to know a lot about income tax. If your tax situation is not complicated with property depreciation, the sale of a residence or the running of a business, you could prepare a return with TaxVision in less than an hour. The complicated returns would take longer only because you need to refer to a good tax guide (or ask a good CPA) to plan a tax strategy before filling out your return. The actual filling out of the return takes less time than any of the other packages we reviewed.

TaxVision's manual is very helpful. The tutorial helps people who have simple returns. The reference section provides detailed information about each form and schedule. One appendix is a brief review of Revenue Procedure 84-9 which states the IRS requirements relating to computer-prepared returns. Another is an example of creating a supporting spreadsheet and linking it to a line of a schedule. Another shows all the links between the spreadsheets and the names of cells that share data among the spreadsheets.

This package is highly recommended for users who have Multiplan. If you don't, consider the features of Multiplan as a spreadsheet program for other tasks. It has an easier method of controlling spreadsheet links than Perfect Calc, and it runs nearly as fast as SuperCalc (which is much faster than Perfect Calc). Multiplan has other features (such as named cells) that make it easy to design multiple linked spreadsheets that can share data. And it runs on a variety of computers, including the IBM PC and the Apple Macintosh.

The TaxVision package is complete, but it is almost twice the price ($89) of the other spreadsheet templates. However, if you can use the benefits of faster processing, supplied forms, a complete list of forms and schedules, and a fast, easy method for filling out and calculating your return paperwork, it's worth the price.

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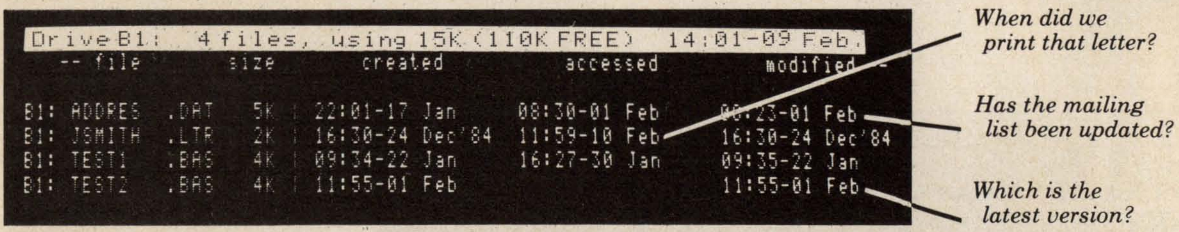

```
Drive B1:   4 files, using 15K (110K FREE)   14:01-09 Feb.
  -- file        size         created              accessed            modified --

B1: ADDRES   .DAT    5K | 22:01-17 Jan       08:30-01 Feb       08:23-01 Feb
B1: JSMITH   .LTR    2K | 16:30-24 Dec'84    11:59-10 Feb       16:30-24 Dec'84
B1: TEST1    .BAS    4K | 09:34-22 Jan       16:27-30 Jan       09:35-22 Jan
B1: TEST2    .BAS    4K | 11:55-01 Feb                          11:55-01 Feb
```

When did we print that letter?
Has the mailing list been updated?
Which is the latest version?

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Profiting From Income Tax: The Master Tax Program For Tax Preparers

You can prepare Federal Income Tax returns for hundreds of clients in different states with this package.

by Tony Bove & Cheryl Rhodes

Master Tax and **Tax Planner** are by CPAids, Inc. (1061 Fraternity Circle, Kent, OH 44240). The package includes Schedules A, B, C, D, E, F, G, R/RP, SE, W and ES; Form 1040 and Forms 1116, 2106, 2119, 2210, 2441, 2555, 3468, 3903, 3903F, 4136, 4137, 4255, 4562, 4684, 4797, 4835, 4952, 4972, 5695, 5884, 6251, 6252. The package also has multiple copies of Schedules C, E, and F and Forms 2106 and 6252. Special features include alternative minimum tax calculations, a tax questionaire, a proforma, penalty calculations (Form 2210), unemployment calculation and expatriate income.

Price: $1795 for Master Tax, plus $300 for the optional Tax Planner. Additional packages include the 1984 California State Tax program ($500) and other programs for other states.

Updates: 1/3 of the current retail price (for both packages).

Other packages from CPAids include the Standard Tax Program (for less sophisticated returns), the Client Write-Up program, the Corporate 1120 program and the 1065 Partnership program.

With tax laws the way they are for 1984 and 1985, it's no surprise that tax preparation is now a booming business. There are more loopholes, shortcuts, tax havens and exclusions for rich people than ever before. More people are moonlighting (taking on second jobs or managing small businesses on the side) and as a result they are incurring new tax headaches they never had before. Just buying a personal computer may make your tax situation more complex than it was before.

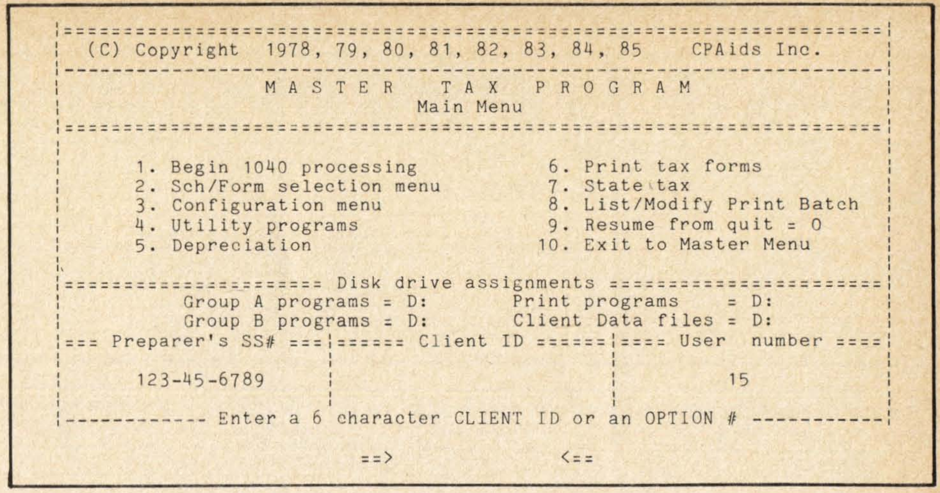
Professional tax preparation has become a full-time, full-year job for many accountants. If you are an accountant who plans individual tax returns for many different clients, you may find the Master Tax Program from CPAids to be the most useful software package for your computer.

On the other hand, if you prepare only several returns in a year, the Master Tax program at $1795 may cost too much to be cost-effective for you. You may be more interested in the spreadsheet templates that cost less than one-tenth of the Master Tax program.

Master Tax is by far the most complete package we've seen, and also the most expensive, but it can make it very easy for you to prepare a lot of returns for a lot of clients with different financial situations.

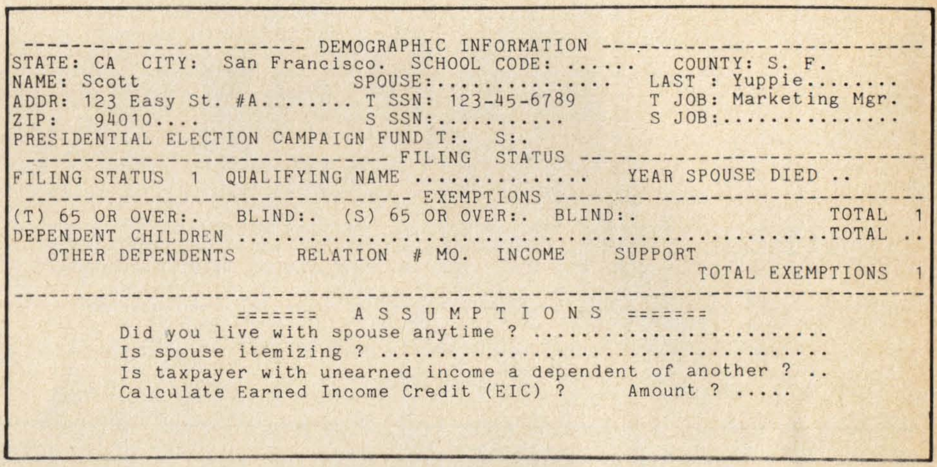
The package we received did not include the state tax module for calculating state income tax, which is extra (you can purchase modules for different states; California's is $500 with an update price of $250).

The package did include Tax Planner, the module for making "what if" calculations and doing tax planning during the year. We found Master Tax to be very useful for a preparer. Tax Planner is useful to a preparer and also useful in the hands of the preparer's client. However, the program is expensive compared to spreadsheet templates, and it requires Master Tax to actually prepare a return. Clients may not take to it, but preparers could reap more benefits if clients used it, since it would reduce the data entry effort and keep clients feeling that they're in control.



```
|==================================================================|
|  (C) Copyright  1978, 79, 80, 81, 82, 83, 84, 85    CPAids Inc.  |
|------------------------------------------------------------------|
|                  M A S T E R   T A X   P R O G R A M             |
|                              Main Menu                           |
|==================================================================|
|                                                                  |
|      1. Begin 1040 processing              6. Print tax forms    |
|      2. Sch/Form selection menu            7. State tax          |
|      3. Configuration menu                 8. List/Modify Print Batch |
|      4. Utility programs                   9. Resume from quit = 0 |
|      5. Depreciation                      10. Exit to Master Menu |
|                                                                  |
|===================== Disk drive assignments =====================|
|          Group A programs = D:        Print programs    = D:     |
|          Group B programs = D:        Client Data files = D:     |
|=== Preparer's SS# ===|====== Client ID ======|==== User  number ====|
|                      |                       |                   |
|      123-45-6789     |                       |        15         |
|                      |                       |                   |
|----------- Enter a 6 character CLIENT ID or an OPTION # -----------|

                      ==>             <==
```

Figure 1. *The Master Tax main menu.*



```
 ------------------------ DEMOGRAPHIC INFORMATION ---------------------------
STATE: CA  CITY:  San Francisco.  SCHOOL CODE: ......   COUNTY: S. F.
NAME: Scott                   SPOUSE:...............   LAST : Yuppie........
ADDR: 123 Easy St. #A........ T SSN: 123-45-6789       T JOB: Marketing Mgr.
ZIP:   94010....              S SSN:...........        S JOB:...............
PRESIDENTIAL ELECTION CAMPAIGN FUND T:.  S:.
 --------------------------- FILING  STATUS ---------------------------------
FILING STATUS  1  QUALIFYING NAME ..............   YEAR SPOUSE DIED ..
 ---------------------------- EXEMPTIONS ------------------------------------
(T) 65 OR OVER:.  BLIND:.  (S) 65 OR OVER:.  BLIND:.                 TOTAL  1
DEPENDENT CHILDREN ..................................................TOTAL ..
   OTHER DEPENDENTS     RELATION  # MO.  INCOME    SUPPORT
                                                         TOTAL EXEMPTIONS  1
-----------------------------------------------------------------------------
                    =======   A S S U M P T I O N S   =======
          Did you live with spouse anytime ? ........................
          Is spouse itemizing ? .....................................
          Is taxpayer with unearned income a dependent of another ? ..
          Calculate Earned Income Credit (EIC) ?     Amount ? .....
```

Figure 2. *Demographic information for the 1040 Form supplied with the Master Tax program.*

Requirements

The Master Tax package comes on five eight-inch disks or the equivalent in 5¹/₄" disks. You need approximately 858 kilobytes of disk space to hold Master Tax; for Tax Planner you need an additional 193K.

The package is designed primarily for hard disk systems — you can fit everything on a five megabyte hard disk with room for no problem. You can also run the package on floppy disks but you will have to switch disks often during processing and printing.

The Master Tax program requires at least 56K of RAM on CP/M and MP/M II systems, or 128K of RAM on MS-DOS/PC-DOS version 1.0, or 192K of RAM on MS-DOS/PC-DOS version 2.0. Floppy disk systems need at least 160K per disk (if Osborne, must be double-density). The CRT must display 80 by 24 lines. Your printer must be able to handle 8¹/₂" forms, ten characters per inch and six lines per inch.

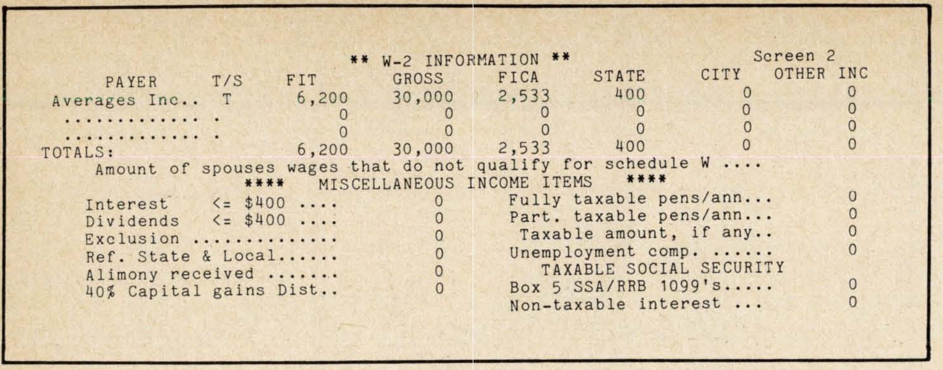
Configuration

You must first configure Master Tax and Tax Planner for your computer and terminal with the CPAIDS menu program. You must configure it once to start it; afterwards you can configure different terminals for different *users* of the package, making it very flexible in multi-user systems where different terminals are used on the system.

You start the CPAIDS menu program by typing `CPAIDS`↵. It responds with a request for a "user number." You can have up to 99 different "users" (tax preparers) with separate client files for each "user." Each "user" has its own preparer's social security number to be printed on the forms.

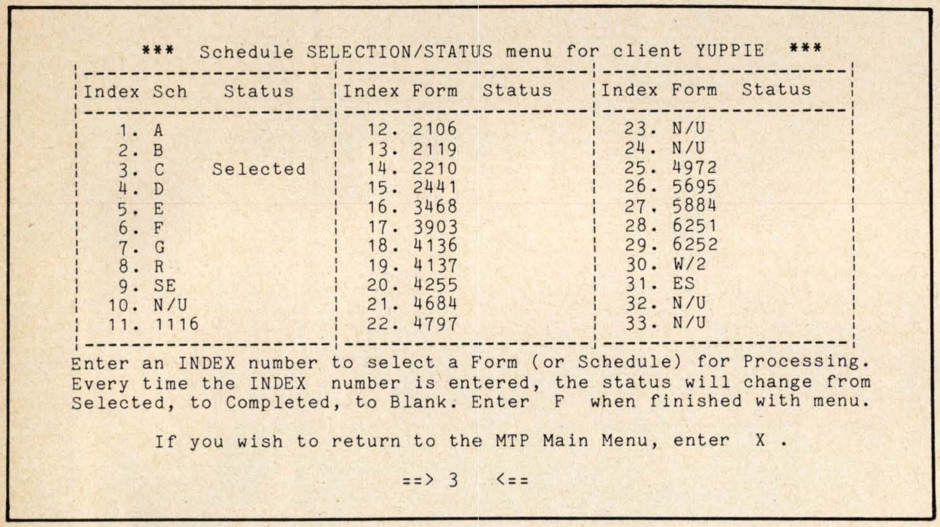
Each "user" can have a different CRT (screen) definition so that the program can be used in a multi-user system with different terminals. Each "user" can also have a different fee schedule and sales tax table. A CPA who works near a state line could set up two "users" — one for clients in each state.

Each "user" also has an access code that identifies the buyer of the program. The access code is an



```
                          ** W-2 INFORMATION **                          Screen 2
       PAYER      T/S      FIT         GROSS        FICA       STATE       CITY    OTHER INC
   Averages Inc..  T        6,200      30,000       2,533        400          0          0
   ............. .              0           0           0          0          0          0
   ............. .              0           0           0          0          0          0
  TOTALS:                   6,200      30,000       2,533        400          0          0
        Amount of spouses wages that do not qualify for schedule W ....
                     ****   MISCELLANEOUS INCOME ITEMS   ****
       Interest    <= $400 ....          0       Fully taxable pens/ann...          0
       Dividends   <= $400 ....          0       Part. taxable pens/ann...          0
       Exclusion ..............          0        Taxable amount, if any..          0
       Ref. State & Local......          0       Unemployment comp. ......          0
       Alimony received .......          0          TAXABLE SOCIAL SECURITY
       40% Capital gains Dist..          0       Box 5 SSA/RRB 1099's.....          0
                                                 Non-taxable interest ...           0
```

Figure 3. *The W-2 screen for Master Tax must be filled out after you supply the demographic data in figure 2.*



```
       ***  Schedule SELECTION/STATUS menu for client YUPPIE  ***
  |----------------------|----------------------|----------------------|
  |Index Sch    Status   |Index Form  Status    |Index Form  Status    |
  |----------------------|----------------------|----------------------|
  |   1. A               |  12. 2106            |  23. N/U             |
  |   2. B               |  13. 2119            |  24. N/U             |
  |   3. C    Selected   |  14. 2210            |  25. 4972            |
  |   4. D               |  15. 2441            |  26. 5695            |
  |   5. E               |  16. 3468            |  27. 5884            |
  |   6. F               |  17. 3903            |  28. 6251            |
  |   7. G               |  18. 4136            |  29. 6252            |
  |   8. R               |  19. 4137            |  30. W/2             |
  |   9. SE              |  20. 4255            |  31. ES              |
  |  10. N/U             |  21. 4684            |  32. N/U             |
  |  11. 1116            |  22. 4797            |  33. N/U             |
  |----------------------|----------------------|----------------------|
  Enter an INDEX number to select a Form (or Schedule) for Processing.
  Every time the INDEX  number is entered, the status will change from
  Selected, to Completed, to Blank. Enter  F  when finished with menu.

         If you wish to return to the MTP Main Menu, enter  X .

                               ==> 3   <==
```

Figure 4. *After you enter the demographic data and the W-2 information, Master Tax presents a menu of forms and schedules; you can start with any form or schedule.*

encryption of the buyer's name and address.

When you start up the program for the first time, you must enter a state sales tax table for the user number you selected. This is a straightforward operation of typing numbers into columns. You select the sales tax tables from the configuration menu.

If you have enough space on your disk (for example, if you have a hard disk), you can set up as many different sales tax tables as you need — one for each user number. You can also copy the sales tax table to another disk, or set up a different tax table on another disk, for use with clients from other states. If your state has no sales tax table, you can leave the table blank.

The configuration menu lets you set the printer offset so that forms will print correctly. You can set an offset that works with your tractor feed mechanism without moving the tractor feed. This option is particularly useful for setting up a printer that has a non-moving tractor feed mechanism.

The Master Tax program can print tax returns in batch mode for as many clients as you can fit on your disk. The number of clients to print in batch mode is preset to 100, but if you are using Master Tax on a floppy disk system, the manual recommends that you change this to 15 clients. The manual says that you can probably fit up to 21 clients if your disk capacity is 320K; however, you should set your batch limit to approximately 20% less than the number of clients you can store on one disk.

Entering Data

Upon selecting the Master Tax Program from the first menu, you are presented with the Master Tax Program Main Menu (figure 1).

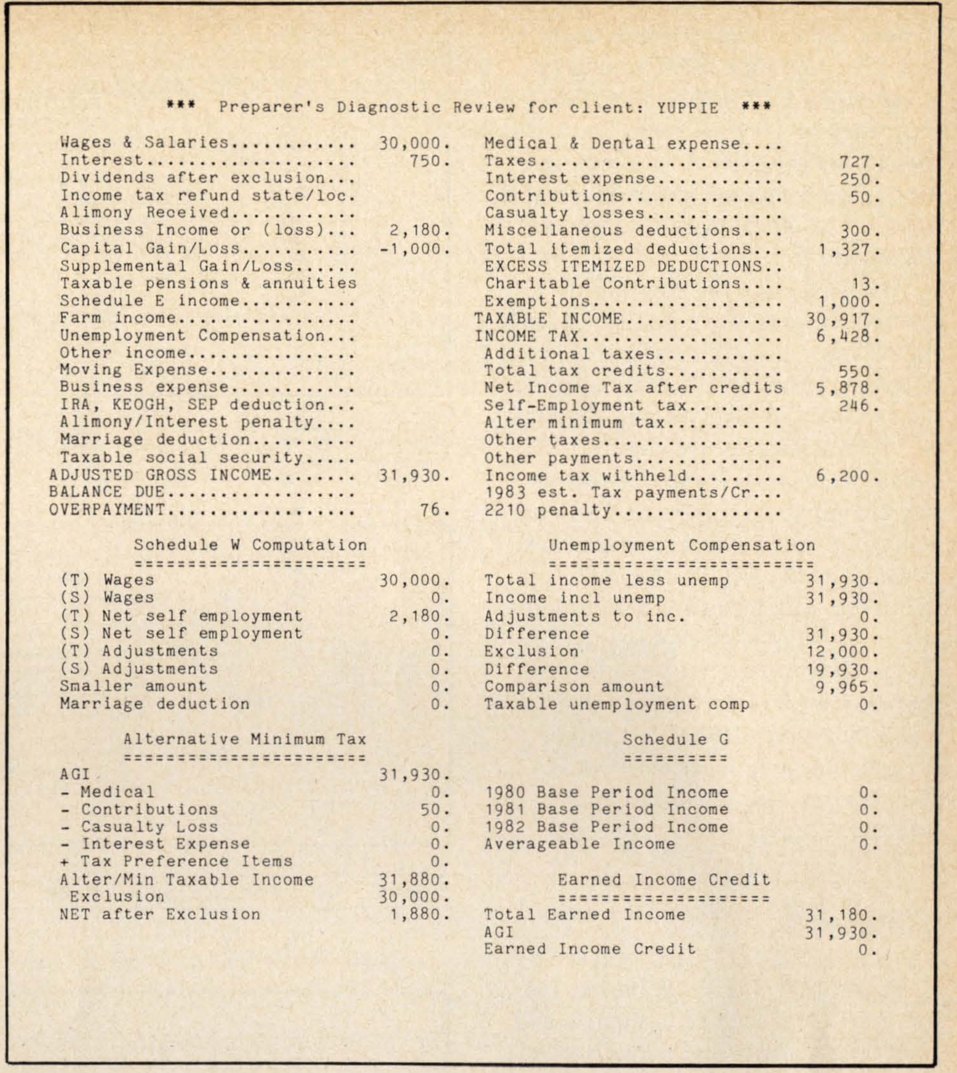
To enter data for a client, you first create a client ID (six alphanumeric characters), and then fill out the demographic information including filing status. You must select option 1 (`Begin 1040 processing`) and fill in the demographic information before picking option 2, because the calculations in the forms and schedules depend on the demographic information (see figure 2).

At this point, if your client is married filing jointly, you must decide whether the client (read "taxpayer") is the husband or the wife; if the husband is the taxpayer, the wife's data is referred to as "spouse"; if the wife is the "taxpayer" the husband is the "spouse."

According to the "Helpful Suggestions" provided in the Master Tax Program manual, the key to making this decision is whether or not the spouse has wage income that does not qualify for Schedule W. If one of the partners does have such income, he/she should be designated the "spouse."

You enter your client's demographic information as shown in figure 2. Data entry is not as easy as you would expect from a personal computer pro-

The Master Tax Program is worth the price if you have many clients. It has the ability to help you prepare returns for clients with very sophisticated financial situations.



```
      ***  Preparer's Diagnostic Review for client: YUPPIE  ***

 Wages & Salaries............  30,000.    Medical & Dental expense....
 Interest....................     750.    Taxes.......................      727.
 Dividends after exclusion...             Interest expense............      250.
 Income tax refund state/loc.             Contributions...............       50.
 Alimony Received............             Casualty losses.............
 Business Income or (loss)...   2,180.    Miscellaneous deductions....      300.
 Capital Gain/Loss...........  -1,000.    Total itemized deductions...    1,327.
 Supplemental Gain/Loss......             EXCESS ITEMIZED DEDUCTIONS..
 Taxable pensions & annuities             Charitable Contributions....       13.
 Schedule E income...........             Exemptions..................    1,000.
 Farm income.................            TAXABLE INCOME...............   30,917.
 Unemployment Compensation...            INCOME TAX...................    6,428.
 Other income................             Additional taxes............
 Moving Expense..............             Total tax credits...........      550.
 Business expense............             Net Income Tax after credits    5,878.
 IRA, KEOGH, SEP deduction...             Self-Employment tax.........      246.
 Alimony/Interest penalty....             Alter minimum tax...........
 Marriage deduction..........             Other taxes.................
 Taxable social security.....             Other payments..............
ADJUSTED GROSS INCOME........  31,930.    Income tax withheld.........    6,200.
BALANCE DUE..................             1983 est. Tax payments/Cr...
OVERPAYMENT..................      76.    2210 penalty................

        Schedule W Computation                Unemployment Compensation
        ======================                =========================
 (T) Wages                     30,000.    Total income less unemp        31,930.
 (S) Wages                          0.    Income incl unemp              31,930.
 (T) Net self employment        2,180.    Adjustments to inc.                 0.
 (S) Net self employment            0.    Difference                     31,930.
 (T) Adjustments                    0.    Exclusion                      12,000.
 (S) Adjustments                    0.    Difference                     19,930.
 Smaller amount                     0.    Comparison amount               9,965.
 Marriage deduction                 0.    Taxable unemployment comp           0.

       Alternative Minimum Tax                       Schedule G
       =======================                       ==========
 AGI                           31,930.
 - Medical                          0.    1980 Base Period Income             0.
 - Contributions                   50.    1981 Base Period Income             0.
 - Casualty Loss                    0.    1982 Base Period Income             0.
 - Interest Expense                 0.    Averageable Income                  0.
 + Tax Preference Items             0.
 Alter/Min Taxable Income      31,880.        Earned Income Credit
  Exclusion                    30,000.        ====================
 NET after Exclusion            1,880.    Total Earned Income            31,180.
                                          AGI                            31,930.
                                          Earned Income Credit                0.
```

Figure 5. *When you complete the forms and schedules you need for a client, Master Tax will display this screen of "diagnostic" information so that you can check the accuracy of a return before printing it. You can print this screen.*

gram — you cannot use the cursor control keys to move around the data entry screen. The program has a consistent command structure (you type `E` to start editing a data entry screen), but editing and data entry is cumbersome.

The screen shows two types of fields: character fields are shown with periods, and numeric fields contain zeroes. If you type the wrong type of data for a field, the program displays an error message in the lower left corner of the screen that tells you what kind of data the program expects for that field.

You can move forward field by field by typing amounts and pressing Return (shown as ↩). To move backward, type a `b`↩ or `B`↩ in the first position of a field, and the program reverses the direction so that you move backwards field by field. You change any field by typing over it and pressing Return (↩). You can erase a character field by typing one space and a Return; you erase a numeric field by typing a zero and a Return.

To move forward again, type `F`↩ or `f`↩ in the first position of a field. You can also move directly to a specific field by typing `E`↩ or `e`↩ in the first position of a field. The program displays the prompt message `Edit field #` and lets you type the number of the field; however, fields are not numbered on the screen — they are numbered only in examples in the manual.

These commands are called *data field editing commands* in the manual. They are: `E` or `e` (edit any field), `F` or `f` (move forward), `B` or `b` (move backward), and `/` (redisplay the screen). Pressing Return lets you advance through the data fields without disturbing their contents.

When you finish typing data in all of the fields on the screen, you are presented with a message at the bottom of the screen: `Edit, /, Forward`. These are the choices you can make at this time. You can type the first letter — `E` for edit or `F` to move forward — or the slash (/) to re-display the screen with data in the fields. These are called *screen editing commands*, and you must type them in all UPPER case. Other screen editing commands are `B` (move back to previous screen) and `Q` (quit to main menu), but they are not available from the demographic or W-2 screens.

At this stage you can only edit, redisplay or move forward. When you move forward you are presented with the W-2 information screen (figure 3). You fill in the data fields you need, then you must press Return to advance through the rest of the data fields to reach the end.

Fill in the interest income if it is not greater than $400, and same with dividend income. If either is greater, don't fill them in now — wait until you get to Schedule B. Fill in the rest of the fields if they apply, and when you finish, type `F` to move forward to the next screen.

The next screen has entries for payments to IRA and Keogh accounts, alimony, political contributions, credits and charitable deductions. It also has entries for 1984 estimated tax payments and additional taxes. If you are itemizing deductions on Schedule A, leave charitable contributions blank. The manual takes you step by step through this data entry process.

After entering the initial data, Master Tax displays a menu of schedules for you to choose from (figure 4). The menu shows each schedule and its status — whether or not the schedule has been completed. You can start with any schedule you like.

One annoying part of data entry is that the program does not recognize lower case `y` for "yes" or `n` for "no" — they must be UPPER case letters, although the program does recognize lower case command letters (such as `e` to edit, `f` to move forward to the next screen, etc.).

After selecting the appropriate schedules and completing them, type `F` (not a lower case "f") to finish. The program automatically calculates the income tax and displays the "diagnostic" information screen (figure 5). This screen shows the major categories and amounts computed for them. You can print this report, or go back and change the information by returning to the main menu and selecting the option to begin 1040 processing.

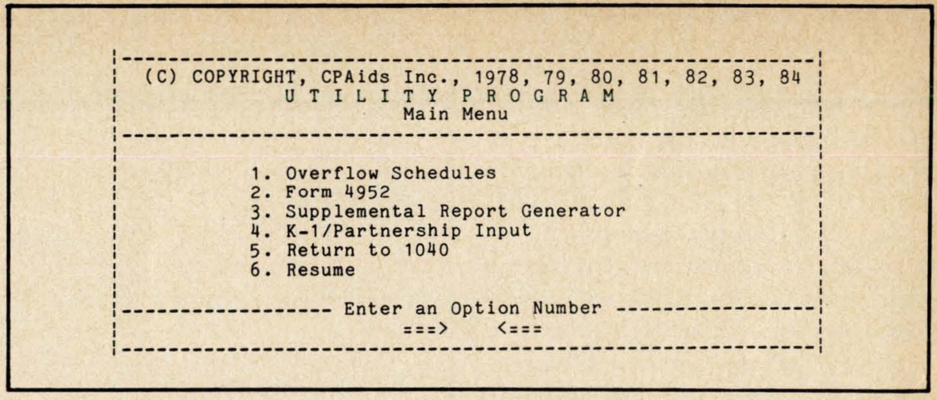
The diagnostic screen can be displayed at any time from the main menu by typing `DIAGNOSTIC`⮐ rather than an option number or client ID. This lets you examine totals before printing returns.

Utilities

The Master Tax Program lets you use overflow schedules to itemize and summarize entries on the main schedules. The program requires you to use pre-set "carry-over" codes to ensure that the overflow information is carried over to the proper schedules. To access the overflow option, you can type an `0` from the command line while in any Schedule or Form, or you can select overflow schedules from the utilities menu (figure 6).

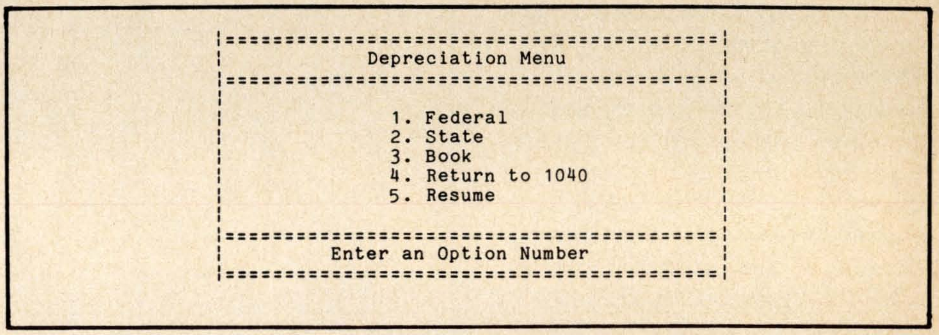
For K-1/Partnership income use the utilities menu. With this option you enter your partnership, trust and/or small business information, and the program carries the information to all of the proper forms and schedules. *The K-1 information overrides entries on other schedules and forms, so use this option first if you need it, before filling out the other schedules and forms.*

The utilities menu also offers Form 4952 (investment interest expense deduction) and a supplemental report generator that lets you print up to ten additional attachments for each client.



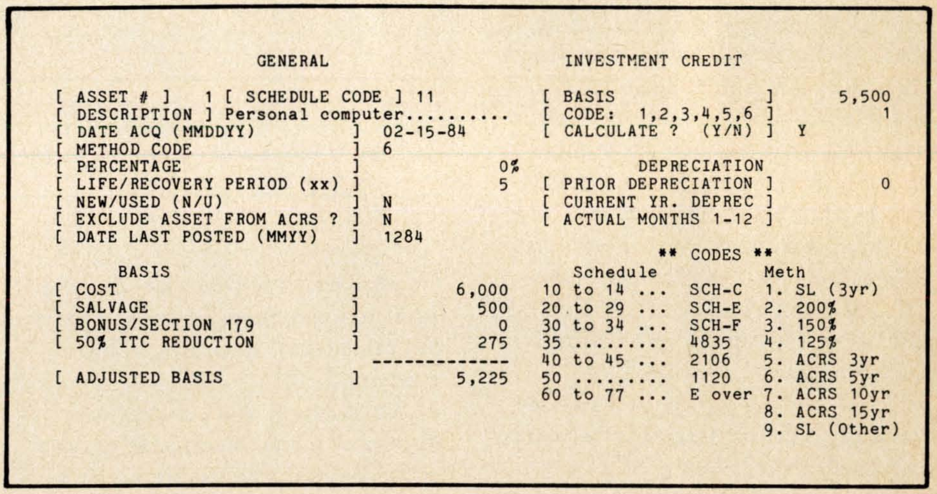
```
|------------------------------------------------------------|
|  (C) COPYRIGHT, CPAids Inc., 1978, 79, 80, 81, 82, 83, 84  |
|              U T I L I T Y   P R O G R A M                 |
|                         Main Menu                          |
|------------------------------------------------------------|
|                                                            |
|             1. Overflow Schedules                          |
|             2. Form 4952                                   |
|             3. Supplemental Report Generator               |
|             4. K-1/Partnership Input                       |
|             5. Return to 1040                              |
|             6. Resume                                      |
|                                                            |
|------------------ Enter an Option Number ------------------|
|                         ===>    <===                       |
|------------------------------------------------------------|
```

Figure 6. *The Master Tax utilities menu. K-1/Partnership income is selected from this menu.*



```
|==========================================|
|             Depreciation Menu            |
|==========================================|
|                                          |
|              1. Federal                  |
|              2. State                    |
|              3. Book                     |
|              4. Return to 1040           |
|              5. Resume                   |
|                                          |
|==========================================|
|            Enter an Option Number        |
|==========================================|
```

Figure 7. *The depreciation options with Master Tax.*



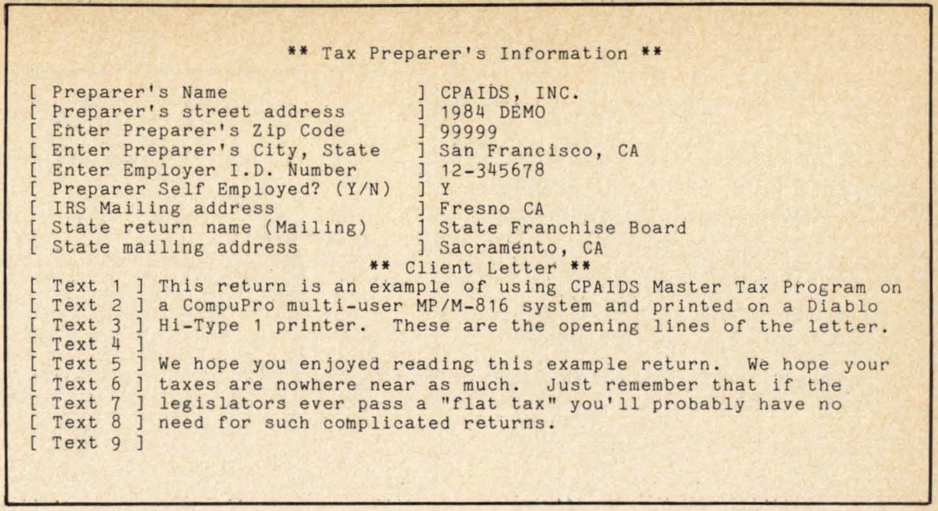
```
                 GENERAL                              INVESTMENT CREDIT

  [ ASSET # ]   1 [ SCHEDULE CODE ] 11          [ BASIS               ]       5,500
  [ DESCRIPTION ] Personal computer..........   [ CODE:  1,2,3,4,5,6 ]            1
  [ DATE ACQ (MMDDYY)           ]  02-15-84     [ CALCULATE ?  (Y/N) ]  Y
  [ METHOD CODE                 ]  6
  [ PERCENTAGE                  ]          0%           DEPRECIATION
  [ LIFE/RECOVERY PERIOD (xx)   ]          5    [ PRIOR DEPRECIATION ]            0
  [ NEW/USED (N/U)              ]  N            [ CURRENT YR. DEPREC ]
  [ EXCLUDE ASSET FROM ACRS ?   ]  N            [ ACTUAL MONTHS 1-12 ]
  [ DATE LAST POSTED (MMYY)     ]  1284
                                                         ** CODES **
      BASIS                                       Schedule          Meth
  [ COST                        ]      6,000    10 to 14 ...  SCH-C  1. SL (3yr)
  [ SALVAGE                     ]        500    20 to 29 ...  SCH-E  2. 200%
  [ BONUS/SECTION 179           ]          0    30 to 34 ...  SCH-F  3. 150%
  [ 50% ITC REDUCTION           ]        275    35 .........  4835   4. 125%
                                 -------------  40 to 45 ...  2106   5. ACRS 3yr
  [ ADJUSTED BASIS              ]      5,225    50 .........  1120   6. ACRS 5yr
                                                60 to 77 ...  E over 7. ACRS 10yr
                                                                     8. ACRS 15yr
                                                                     9. SL (Other)
```

Figure 8. *Entering an asset. You must assign a schedule code to each asset so that the program can copy the depreciation amount to the proper schedule.*

Depreciation

The Master Tax Program provides a depreciation utility that calculates depreciation for up to 500 assets and carries the information to the appropriate forms and schedules.

When you first select depreciation you are presented with five options (figure 7). You must start with option 1 (`Federal`) before selecting options 2 or 3. Option 4 returns you to the main menu and option 5 returns you to the schedule or form from which you selected the depreciation utility.



```
                      ** Tax Preparer's Information **

[ Preparer's Name                  ] CPAIDS, INC.
[ Preparer's street address        ] 1984 DEMO
[ Enter Preparer's Zip Code        ] 99999
[ Enter Preparer's City, State     ] San Francisco, CA
[ Enter Employer I.D. Number       ] 12-345678
[ Preparer Self Employed? (Y/N)    ] Y
[ IRS Mailing address              ] Fresno CA
[ State return name (Mailing)      ] State Franchise Board
[ State mailing address            ] Sacramento, CA
                              ** Client Letter **
[ Text 1 ] This return is an example of using CPAIDS Master Tax Program on
[ Text 2 ] a CompuPro multi-user MP/M-816 system and printed on a Diablo
[ Text 3 ] Hi-Type 1 printer.  These are the opening lines of the letter.
[ Text 4 ]
[ Text 5 ] We hope you enjoyed reading this example return.  We hope your
[ Text 6 ] taxes are nowhere near as much.  Just remember that if the
[ Text 7 ] legislators ever pass a "flat tax" you'll probably have no
[ Text 8 ] need for such complicated returns.
[ Text 9 ]
```

Figure 9. *The preparer and client information screen for use with the client letter.*

When you start with option 1, the program presents a screen for general asset information and investment credit, and automatically assigns asset number 1 to the asset information (figure 8). You must assign a schedule code that ties the asset to a particular schedule or form. You can have up to ten separate 4562 forms for each schedule or form. The manual clearly explains the codes and shows examples.

When you finish supplying data the program displays a prompt message with several options: `Edit`, `Update`, `Void`, `Record`, `Finish`, `Compute Depreciation`, `Print`. You select an option by typing its first letter (an UPPER case letter). The `E` (edit) option lets you edit the information for an asset. Before computing depreciation you must record the asset by typing `R`.

After recording an asset the program shows a blank screen for typing new asset information, and the asset number changes to the next consecutive number. You can stop typing information by typing an `X` in the first position of a field and pressing Return.

The `U` (update) option lets you edit an already-recorded asset and update the recorded version with the new information. The `V` (void) option lets you remove an asset from the record of assets. You can also print the depreciation worksheet with the `P` option.

When you compute depreciation (`C` option, after using `R` and/or `U`), the program sorts the recorded assets and displays the computation on the screen. When Master Tax computes the tax, the depreciation computations are carried to the schedules and forms as you coded the assets.

To create a state depreciation file, select the state option from the depreciation menu. The program asks if you want to transfer assets from the federal form. Type a `Y` to transfer the assets. For each asset you are given the opportunity to change the depreciation method code and life expectancy if you want to; you can also exclude any asset from the transfer to the state form.

With a hundred or more clients you wouldn't want to have operators re-type information from printed spreadsheets — Tax Planner would eliminate the re-typing, and models could be prepared well in advance of tax time.

Printing Returns

The program requires that you (or your typist) enter the preparer's information before printing returns for clients. You enter this information by picking option `H` from the configuration menu.

The preparer's name and address are derived from the access codes. You are allowed to put in the zip code, city and state, employer ID number, the IRS mailing address and the state mailing address (figure 9). This information is printed on each client's return (figure 10).

In addition you can type the opening four lines and closing five lines of a standard client letter that includes fees from the standard fee schedule.

Before printing a client's return, make sure the client's forms and schedules are completed. The selection menu (figure 4) shows which forms and schedules are completed.

The Master Tax program can print selected clients returns, all clients returns, or just one client's return.

When you select the option to print returns, you have to choose between two print modes: `Computer Generated` and `Continuous Forms/Overlay`. Computer generated means that after printing the 1040 Forms for one or more clients, the program prints the remaining schedules and forms in batch mode, one client at a time, for one or more clients. You must use continuous forms with the schedules in proper order, or you must press ESCape between forms to stop the printing and put in the new form.

Continuous Forms/Overlay, on the other hand, prints all the Schedule A's for the selected clients, then all the Schedule B's, etc. This option includes the Individual Print option which causes the printer to pause between each form so that you can insert a different form.

Tax Planner

The Tax Planner program is designed for a CPA to calculate quickly the tax consequences of the financial activities of many clients. The program contains preset parameters based on current tax regulations for the years 1984 through 1987, but it lets you change them. Tax Planner can read data from the Master Tax program and prepare data for the Master Tax program.

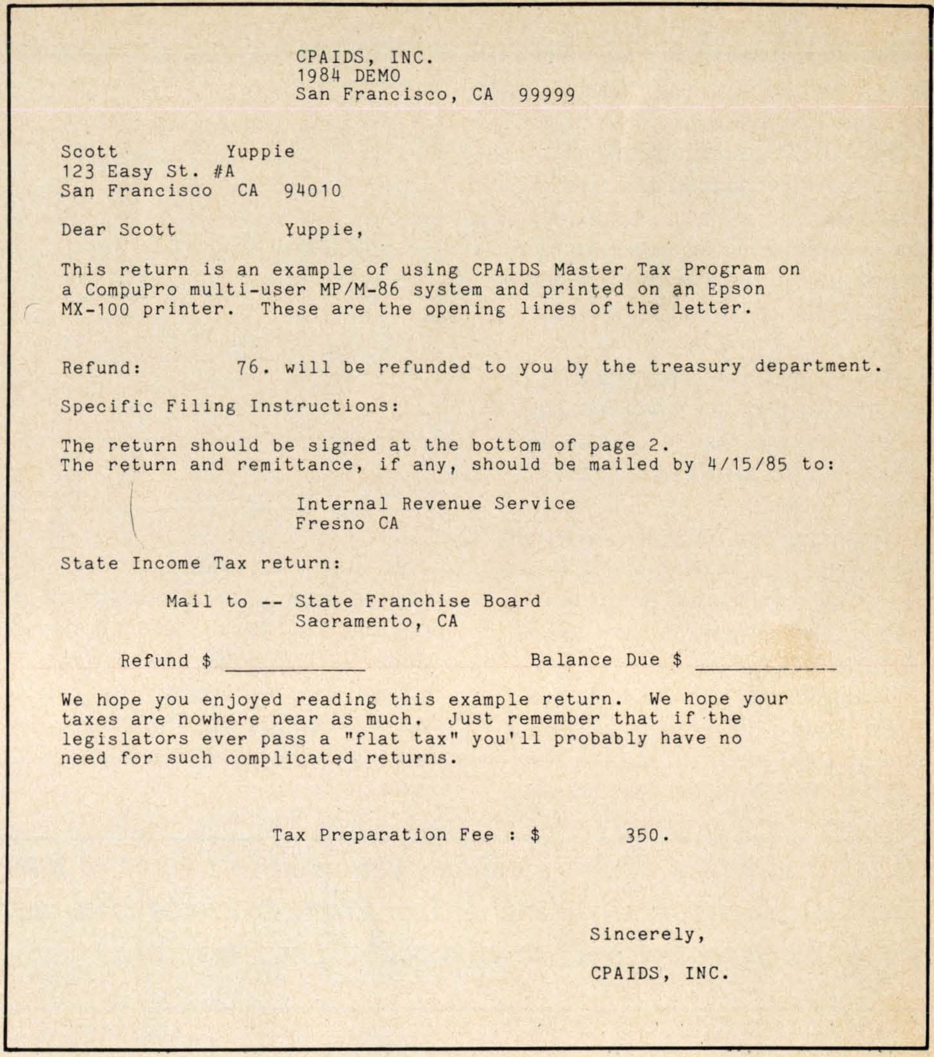
Tax Planner can print two types of reports: one that compares tax liabilities based on four assumptions in a single year, and one that compares the taxes resulting from one or more assumptions in four successive years.

Tax Planner uses both tax tables and schedules and calculates Schedule G (income averaging), Form 4972 (special 10-year averaging method) and Form 6251 (alternative minimum tax). You can use it to check tax return calculations. You can also use it to calculate Form 2119 (sale/exchange of principal residence), partnership income, the investment interest expense deduction (Form 4952) and charitable contribution limits. Tax Planner can also calculate and print loan amortization schedules.

Tax Planner works but is not as flexible as a spreadsheet program. The manual we received with the CP/M version mentioned a built-in calculator feature that did not work. We called CPAids and they were very helpful, explaining that the feature had to be taken out because it was a memory hog.

The program is unforgiving if you try to skip over some questions at the end of Schedule G. If you don't type an actual amount (you can type 0) on "Adj. to income" line, you can't get to the edit prompt — if you press Return without typing a value, the program returns you to the main menu and *does not save your data.* We circumvented this problem by typing an amount on this line. The manual didn't mention it, though.

Despite this inconvenience the program is still useful for tax planning. Integrated with Master Tax, the program can help you plan a client's return in advance. If your client used the program, you could accept his/her data on floppy disk and feed it right into Master Tax at tax time.



```
                          CPAIDS, INC.
                          1984 DEMO
                          San Francisco, CA  99999


Scott         Yuppie
123 Easy St. #A
San Francisco  CA  94010

Dear Scott         Yuppie,

This return is an example of using CPAIDS Master Tax Program on
a CompuPro multi-user MP/M-86 system and printed on an Epson
MX-100 printer.  These are the opening lines of the letter.


Refund:         76. will be refunded to you by the treasury department.

Specific Filing Instructions:

The return should be signed at the bottom of page 2.
The return and remittance, if any, should be mailed by 4/15/85 to:

                          Internal Revenue Service
                          Fresno CA

State Income Tax return:

           Mail to -- State Franchise Board
                       Sacramento, CA

     Refund $ ___________               Balance Due $ ____________

We hope you enjoyed reading this example return.  We hope your
taxes are nowhere near as much.  Just remember that if the
legislators ever pass a "flat tax" you'll probably have no
need for such complicated returns.



                        Tax Preparation Fee : $       350.



                                                Sincerely,

                                                CPAIDS, INC.
```

Figure 10. *You can print a preparer's client letter that automatically includes the preparer's and client's information from the screen in figure 9.*

Assessment

Master Tax is a comprehensive package for tax preparers. For an organization of tax preparers with with a multi-user system for processing a hundred or more clients, Master Tax at $1795 for the entire installation is definitely worth it. Tax Planner is also worth the extra $300, since the planning data can be transferred to Master Tax. With a hundred or more clients you wouldn't want to have operators re-type information from printed spreadsheets — Tax Planner would eliminate the re-typing, and models could be prepared well in advance of tax time.

For one preparer with a single-user personal computer and about twenty to fifty clients, Master Tax is worth the price. It has the ability to help you prepare returns for clients with very sophisticated financial situations. Tax Planner might also be worth the extra $300 if you don't want to design planning spreadsheets or buy a more expensive spreadsheet program. However you might need a spreadsheet program for other tasks, in which case, Tax Planner may not be needed.

You need enough hard disk space (approximately 858K) to accommodate the Master Tax package. Running on 360K floppy disks, the program can handle about 25 clients, but you have to switch disks often. There is no limit to the number of clients other than disk space limitations.

If you are a tax preparer using Master Tax, Tax Planner (less than 200K) can be useful in the hands of your client and can save your client some expense. Your client could do his/her own tax planning with Tax Planner, and at the end of the year provide you with a floppy disk of tax data for you to feed into Master Tax.

Tax Planner is more expensive than spreadsheet templates and it does not prepare or print the return forms and schedules. It is not for preparing individual returns but for *tax planning* with sophisticated financial conditions and alternatives. In other words you must be dealing with semi-wealthy clients, or be one yourself, to make use of Tax Planner. As for Master Tax, you could use it to become wealthy doing other people's returns.

New Letters *continued from page 6*

down and write to you. I shall make them a part of my permanent library.

Duane Allen
San Jose, CA

Your publication is a most useful and informative magazine. It has been a great training tool and has greatly eased the transition from CP/M to MS-DOS.

Judy Whitfield
Austin, TX

Spellbound

During the period (issues #5 to #7) when you could not decide on a subheading for the *User's Guide*, I wrote you a critical letter explaining my concern about what I surmised to be your declining interest in CP/M-80 users.

I'm happy to admit that my fears were unfounded. During CP/M's peak years, I was subscribing to over ten computer magazines. They all provided some worthwhile information. As the IBM blue wave started to change the content of almost every magazine, I lost interest in a majority of the publications. Today I only subscribe to three computer magazines; namely, *Byte*, *InfoWorld* and *User's Guide*. *Byte* provides ads from discount houses, *InfoWorld* keeps me abreast of the latest developments (and gossip), but today, only the *User's Guide* gives me the type of computer articles that I enjoy reading. Issues 11/12 and 13 were especially good. Please hang in there and keep the great material coming. I might

Continued on page 60.

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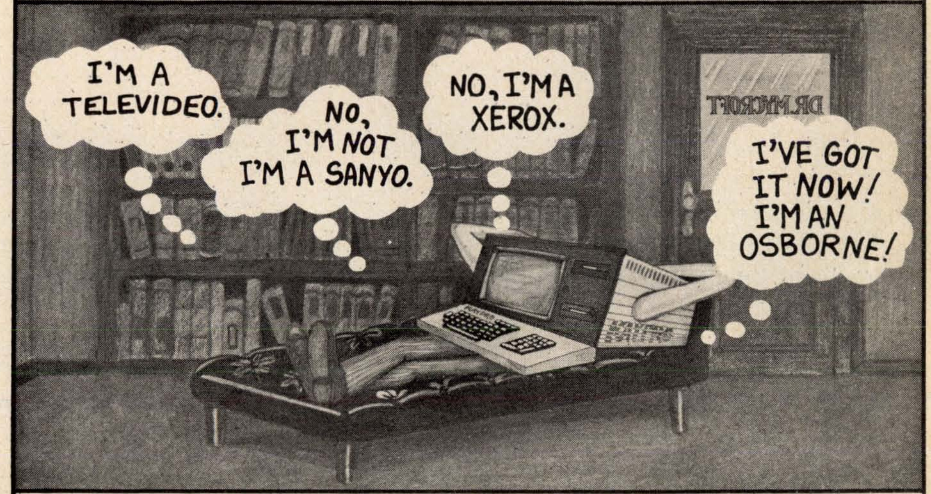
I'M A TELEVIDEO.
NO, I'M NOT I'M A SANYO.
NO, I'M A XEROX.
DR.MYCROFT
I'VE GOT IT NOW! I'M AN OSBORNE!

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Many Happy Returns: Tax Preparer For PCs

An overview of preparing income tax returns with computers, with HowardSoft's Tax Preparer™ as an example.

By Steve Rosenthal

Tax simplification may be the hot political topic for the year, but it hasn't yet had any effect on the returns due by this April 15. If you need help with filling out your tax forms, you may be able to get it from your PC.

Of course, not every tax return needs computer help. If you expect to fill out the short form, all your income is from wages, and you're taking the standard deduction, you can probably get your return done with a $5.00 calculator long before you could unpack a tax program and read the directions. Tax programs are aimed instead at those of us whose tax returns look more like small pamphlets and at people who prepare returns for a living.

There are scores of tax programs out, ranging in price from under $50 to more than $500. Since it looks like an impossible task to locate and review them all, I'll try instead to show you some of the features that make some of the packages far better than others. As a reference point, I'll use the current bestselling tax package for the PC market, HowardSoft's Tax Preparer.

The first question to ask is what machine the program runs on. Tax preparation programs programs are largely written by accountants and tax experts rather than programming houses, which means that they generally only run on whatever machine the author happened to use. Tax Preparer, for example, was originally written for Jim Howard's Apple II, and is now also available for the IBM PC — but there's still no CP/M version.

Some tax packages need more than just the right hardware. Several products are are not complete programs, but are templates or overlays for popular spreadsheets such as Lotus 1-2-3® or Multiplan®. If you don't already have that spreadsheet, you have to add it to the cost of the template. And to run these add-ons, you often have to first know how to use the underlying software as well.

Tax Preparer isn't a template, but it does need outside support — it's written as an *interpreted* BASIC program, rather than a directly executable ".COM" or ".EXE" file. For the PC-DOS version, you must have a true IBM PC or a PC-compatible running MS-DOS, with a copy of GWBASIC from Microsoft.

The next important qualification is whether the package computes the forms and schedules you need. As the tax laws have evolved and expanded, there's been a similar proliferation of the various supplemental sheets added to the basic tax return. Every tax package will help you fill out a 1040, but some cover as many as two-dozen more related forms.

Some of the more sophisticated tax packages, in fact, come in two versions — one that covers only the most common forms (generally the ones denominated with letters, such as A,B,C etc.), and another at higher cost that includes the more unusual forms (which generally have numbers as

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Tax Preparer is a trademark of HowardSoft. Lotus 1-2-3 is a trademark of Lotus. Multiplan is a trademark of Microsoft.

their titles).

Tax Preparer offers only one level, but covers Schedules A, B, C, D, E, F, G, R, SE, and D and Forms 2106, 2119, 2441, 3468, 3903, 4562, 4797, 5695, and 6251. That's pretty much all you might need for your return if you work for wages or if you run a small, wholly-owned business.

If you find yourself by chance or design in a more unusual tax situation, you may still be able to compute your taxes on the computer even if you can't find a program that includes a particular rare form or schedule that you need. Tax programs generally make provisions for either overriding totals or adding in adjustment figures from supplementary sheets. You won't get the automatic recalculation benefits (discussed below), and you'll have to do more work manually.

Should you consider a tax package that doesn't include all the forms you think you need? If you're going to do your taxes once through, without trying alternative strategies or adjusting for late adjustments to your annual books, lacking a single form or two may not be much of a problem. But if you're the type of person who explores every alternate approach or makes adjustments for several months after the nominal closing of your books, you may find the required manual steps slow down the whole computerized process too much to allow easy iterations. Of course, if no program that you can find does what you need, you have to decide whether a manual-computerized hybrid system is worth the trouble.

If the package runs on your computer and does the forms you need, you still have to consider the human factors. Some programs assume quite a bit of computer knowledge, some quite of bit of accounting experience, and some require both. If you're not a professional tax preparer who can spread the time to learn the package over scores of returns, you may find that the time to learn a package approaches the time to do your return manually.

Consequently, if you're not an outright expert at both taxes and computer use, the quality of the user interface, manuals, and any help information matter quite a bit. Again, since most tax packages have grown out of someone's personal requirements rather than as market-driven products, programming style and documentation vary widely.

In Tax Preparer, for example, the manual guides you step by step starting with turning the computer on. It tells you how to put the date and time into DOS, how to make a backup disk, how to prepare data disks, and even how to take care of floppy disks.

Tax Preparer also has a line-by-line explanation of the tax forms, condensed from the IRS instructions forms. Assuming that you're familiar with basic accounting concepts, this should be enough to help you find what you need to enter in the numbers. Unfortunately, this information is only in the manual and not on the disks (it would probably take another entire disk or two, requiring either disk swapping or a hard disk).

Another question is what the program does with fields that can have a variable number of answers. For example, what does it do if you have eight dependent children? Or if you are a cautious but wealthy depositor, with accounts in twelve different banks? The tax forms take care of this with various supplementary schedules, extra lines that can be used for any question on a form, or by asking your to attach a supporting statement or list.

Several of the other programs that I looked at gave you what they considered a reasonable number of spaces for each of these type of entries, relying on you to manually override the total with supplementary information if you had it. I liked the Tax Preparer solution to this problem much better — for any line, you can have the program pull up a supporting schedule (or create a general-purpose one if the IRS hasn't defined one) to list whatever won't fit in the normal space. When you print out your return, this list is also printed out, correctly identified for attachment to your return.

If all your income is from wages, and you're taking the standard deduction, you can probably get your return done with a $5.00 calculator long before you could unpack a tax program and read the directions.

As for their user interface, most tax programs are essentially menu-driven, with on-screen cursor controls or commands to navigate within the individual forms. In particular, most often you pick from input, calculation or printout on one menu, which form you want to fill out on another, and so on. Once you're filling out a form, a few programs require you to work your way completely through the lines in sequence. Most, however, now let you use the arrow keys or other commands to back up or jump around as you wish.

Keeping Your Return in Order

From an accountant's point of view, the order in which you fill out tax returns should be from the details and subtotals on the supporting schedules and then on to the summaries and totals on Form 1040 and the other major documents. However, both the tax return and human nature seems more oriented toward a top-down approach, starting with the summary.

The most common working arrangement is to start in on the 1040, and then work down line by line until you encounter an entry that requires a supplementary schedule. You then detour to the schedule, work through it to get the number you need, and then continue on with the 1040.

A program that lets you skip around that way is essential if that's the way you plan to work. If the program makes you go from start to finish it its own order and not yours, you may be tempted to skip out of the program entirely.

One reason that accountants generally frown upon filling out forms by skipping around between lines and sheets is the problem of consistency. If you're filling out a form manually, it's hard to be sure that any changes you go back and make on, say a Schedule C, are reflected on all the other affected schedules, such as your G, SE and 1040.

That's one problem that computerized systems take care of completely. Just as you can do on a spreadsheet program, every serious tax program includes links to automatically carry restatements or sums down to the affected lines. If you change your income figure on a Schedule C, it will not only affect the profit on the bottom line of that form, but it will be brought over to your 1040 as well.

Most programs do this carryover and summation process (which spreadsheet users would call "recalculation") on command, and it's automatically done when you prepare any forms for printout. HowardSoft's Tax Preparer can even be set to go one step further, automatically updating and recalculating as required whenever the program is paused waiting for you to type in an entry or command.

In practice, you'll find that making transfers and summations is something that tax programs do reliably and accurately, but not necessarily quickly. If you look carefully at the copyright notices for most tax programs, you'll probably see a line that says "Portions Copyright Microsoft" or some other software firm. Tax programs are generally written in a high-level language such as BASIC or COBOL, rather than in the faster and more nimble C language or assembly language.

Consequently, while these programs can easily keep up with you during ordinary data entry, they can't run fast enough to perform all the necessary calculations between the keystrokes of a prepared and trained typist. If you alter an entry that requires a great deal of recalculation and looping, it may take the program more than a minute to make all the needed adjustments.

Your first reaction might be to ask why program authors don't simply recode any time-critical routines in assembly language. But look at it for a moment from the vendor's point of view (remembering that the program authors are accounting experts, not computer wizards).

The models they use to develop these programs are necessarily complex and interrelated, based as they are on our rococo tax system. Furthermore, every year Congress, the IRS, the tax courts and the federal appeals courts change a good number of the rules. The tax rules for the year and the forms may not be finalized until December, while the peak selling season for these programs is January through March. By May, your program is only worth selling as a demonstration disk in connection with next year's effort. And although it isn't as critical as the autopilot program for an airlines, a tax program is serious business: buyers expect the program to be completely accurate and bug free.

Given this environment, I for one would be suspicious of a program that *wasn't* written in a high-level language. That may mean a few more minutes of wait time, but it sure would beat having to file an amended return in May if the program author finds a hidden program bug.

If you're thinking of using a program for volume work instead of just your own personal return, you may not be able to afford several extra minutes on each return. If so, you want the tax program's equivalent of a spreadsheet's manual recalculation mode rather than automatic recalculation.

Tax Preparer even suggests that high-volume users select a special deferred calculation mode. In this arrangement, you first use the program to print up a series of questionaires coded by form and line number, your front office people fill in the forms during the client interviews, data entry clerks type in the data by entry code and value, and the computer does all the calculations in batch mode overnight.

Printing Out The Results

However you do your computations, so far the IRS doesn't accept tax returns on floppy disks. At least for the next year or two, you'll have to follow up your data entry and calculation steps with printing out the final return.

Under current IRS rules, the 1040 form itself must be submitted on an official form or a facsimile that is identical in appearance. You can print directly on an IRS 1040, which may involved quite a bit of trials to get the form lined up correctly, or buy continuous forms copies (with pin or tractor-feed holes along the side). As a last method, you can print out the numbers in the correct locations, take a transparent overlay of a 1040, and photocopy the total result.

For a tax preparation service, printing onto continuous form 1040s makes the most sense. You can buy the forms from most of the major computer suppliers. For personal use, you may be better off with the overlay method. Unfortunately, Tax Preparer doesn't supply either forms or

The State Bats Last

Few tax programs for personal computers cover state taxes as of yet. Although in general state income taxes are based on the federal figures, most state legislatures jealously guard their prerogatives to define income, exclusions, deductions and credits independently of either the IRS or the U.S. Congress. As a result, a tax program for state use is almost as large a project as a federal one, with a much smaller potential market.

For California (the largest potential market), there are at least two programs that have state supplements for their basic federal return package. One is HowardSoft's Tax Preparer, and the other is TaxWorks (Hollingsworth Business Services, 881 Alma Real Dr. Ste. T-2, Pacific Palisades, CA 90272; phone (213) 459-2746 or in CA call (800) 232-1040).

overlays, although it does tell you how to make your own overlays using an office copier.

For the supporting forms and schedules, you can again line them up and print right onto the official forms or use an overlay (they're not generally available on continuous forms). However, the IRS does allow approved approximations of these forms to be submitted instead. Tax Preparer uses this last method.

A few of the more inexpensive tax programs don't print out in approved format or use correct spacing for the overlay method. With these programs, you have to manually transfer the numbers from the program's output to the official forms. If you don't consider this somewhat of an insult, it's an easy job that will take well under an hour. This method is obviously not suited for commercial tax preparers, but you might still consider it for one-time use.

Are the Results Accurate?

If the IRS says that their numbers are right, "because their computer says so," can you have similar confidence in a tax program that you buy for your own machine? Given the complexities of the tax law, the annual changes and the work it would take to do an audit on a tax program, you'll find that you have no choice but to rely on the software vendor's expertise and quality control (see the end of "For Starters" in this issue).

Because I've been writing reviews, I actually tried some returns loosely based on my own situation with three different tax packages, of which Tax Preparer was one. I'm happy to report they all arrived at the same tax due. If you want to check out a package for yourself, most vendors will sell you their last year's version for $10 to $50 — you can try it out, see whether you could have saved money, and see if you like the way the program works. If the vendor doesn't have a previous package, then you'll have to decide whether you want to bet on a startup.

You might also want to inquire about updates before you buy. If you find a program you like, you 'll probably want to use it again next year (and save the training time). Most of the major vendors offer updates to registered owners at reduced cost (HowardSoft, for example, charges $100). On the other hand, Congress just might simplify the tax code enough someday so you won't need a tax program at all.

***Tax Preparer:* $295**
HowardSoft
8008 Girard Ave, Suite 310
La Jolla, CA 92037
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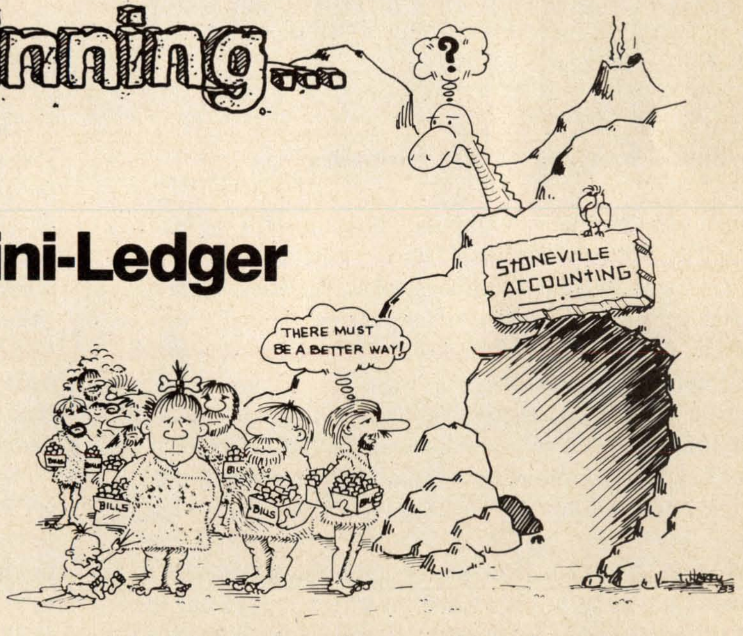

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A Potpourri of Public Domain

Because of the timing of the publication of *User's Guide* I haven't had too many suggestions from readers yet regarding what ought to be covered here. I have my own ideas, of course, from working with public domain utilities for the past two years or so.

I'm going to expand on the coverage of NSWP and DISK7 that Bob Wolff gave you in *User's Guide* #10, filling in some matters that he didn't cover and correcting some errors that crept into his article because of a lack of full documentation. Using UNERASE and RECOVER to "unerase" those files you erased by mistake, how to salvage those disks with bad sectors using FINDBAD and CHEK, some more about the fast text editor VDO, and a few words about NULU version 1.1.

The Fast-Changing Public Domain

One of the problems with public domain software is the distribution network. It doesn't have regularized channels. You can't stop by your neighborhood RCP/M each weekend and see what the newest releases from the public domain are, the way you can stop in the bookstore and see the newest computer magazines.

On the other hand, the system does seem to get an awful lot of public domain software around the "marketplace" rather quickly. Consider the release dates on some of the programs discussed in this column. NULU version 1.1 has a release date February 1, 1985. VDOKP has a release date of February 20, 1985. Now you may not think that's remarkable as you sit in your home (or wherever) reading this some time in April or later, but as I write this it's February 28, 1985. I didn't make any long distance calls to get them, either. NULU was on a Chicago area RCP/M on February 2. I got VDOKP.LBR on the 26th. I remember having versions of NEWSWEEP (NSWEEP) and MDM7xx when they were only a few weeks old. So, for all its informality the distribution of public domain software goes on rather rapidly!

The amorphous public domain really has people in it. You can communicate with them. They will respond. If MicroPro was as responsive as Martin Murray, to give one example, WordStar® would be a good program by now. Just about the time you were receiving User's Guide #13 with my warning about NULU version 1.0 because of its lack of a Cyclic Redundancy Check (CRC) feature, Murray was already releasing version 1.1, which does contain the CRC feature.

Getting Started

One of the first things I did after going to the first user group meeting that I attended was to spend an evening taking files out of "archives" (a group of files crammed together using a special space saving technique and having the filename extension "ARC") with ARCGET.COM, laboriously unsqueezing them using USQ16.COM, and then printing out masses of documentation (I hadn't yet learned about the MailMerge® `.fi` command so it meant printing each file separately) on all the new public domain programs that I had copied from the library of Chicago's First Osborne Group (CFOG).

Most of the new files I get these days come from the RCP/M system, but the rest of the task is the same: I still have to extract document files from libraries (see issue #13), unsqueeze them, and print them, but life is made much easier with NEWSWEEP (NSWP207.COM, also called NSWEEP or SWEEP).

NEWSWEEP, as I call it, has been seen around in a number of versions. I recall NSWP190.COM, which was 7K bytes long, NSWP199.COM at 8K bytes, and NSWP205.COM at 12K bytes, along with the current 12K byte Version 2.07, NSWP207.COM. They are all the work of Dave Rand of Edmonton, Alberta, Canada. Dave's contribution has saved CP/M users countless hours. When you get NSWP2.DOC you'll find Dave's address at the back and you can send him a contribution.

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NEWSWEEP

I'm going to assume that you've read Bob Wolff's article and already know how NEWSWEEP works. For those who missed it, and until your copy of *User's Guide* #10 arrives, here's a capsule.

NEWSWEEP is invoked by typing the name of the version you have and hitting Return (shown as ↵ in this magazine). In some versions it displays a menu of operations available, but in the latest version it doesn't and you'll have to hit the `?` key to get the menu.

NEWSWEEP then displays a list of the files on the logged drive in ASCII alphabetical order together with the size of the file. You can perform various operations on the "active" file. That's the one with the cursor next to it. Among the functions are renaming files, deleting files, copying files, squeezing or unsqueezing files, and setting file status. You advance to the next file name by hitting the space bar. When the list reaches the end, it starts over at the beginning again.

DISK or DISK7, also described in Bob's article, is very similar to NEWSWEEP, but without as many bells and whistles, and not as big — still only 4K bytes. I'll be talking about it along with NEWSWEEP.

More NEWSWEEP Features: CRC

First, NEWSWEEP gives you the option to invoke CRC (Cyclic Redundancy Checking). I discussed the importance of CRC last issue in the NULU context. It's probably not as important when you're copying on your own system, but it's still nice to know the copy is an exact copy of the original.

To invoke CRC when copying a single file you must enter a drive specifier, the full filename and extension, a space, and the letter `v` (for "verify"). When doing a "mass copy" of tagged files you simply append the `v` after the drive specifier — no colon needed in this instance (example: copy to drive A with verification by typing `av` or `AV`).

NEWSWEEP will tell you that it is copying with CRC and verify that it has checked the copy for accuracy. If you simply enter `AV` or `BV` when copying a single file (that is, without a space inbetween as required), the file will be copied to the default drive under the name AV or BV as the case may be. I therefore sometimes tag even a single file when I want to CRC check the copy.

NEWSWEEP: File Status

Second, the Set Status option (`Y`) in NEWSWEEP does work. The problem is that without the documentation it's not easy to figure out that you have to tag the files first!

In addition to setting files to be read/write or read/only, NEWSWEEP sets files to "system" status. Under system status files won't show up when you enter `DIR ↵` or when most of the many extended directory programs are used. Some folks like this because you eliminate files like NEWSWEEP, PIP, or others that you make keep on most disks thus reducing the amount of time it takes to read the directory.

NEWSWEEP can also set "flags" 1, 2, 3, and 4. Unless your version of NEWSWEEP is patched specially to deal with the video attributes of your terminal, setting flags 1 through 4 will mean absolutely nothing to you. If the patch has been performed, one of the first four characters of the filename will have different video attributes (dim, reverse, whatever your terminal will do). Setting flag 1 sets the first character in dim (or whatever).

When the patch has been performed, NEWSWEEP also displays video attributes for files set to R/O, SYS, or the A (archive) status under CP/M Plus. It does this by altering the video attribute of one of the characters of the extension to the file name.

(Patched versions of NSWP207.COM for Osborne 1 and Kaypro, along with the corresponding document files, were distributed to everyone who ordered *any* disk from my listings in issue #13.)

NEWSWEEP: The Size of Tagged Files

The second accumulated file size of tagged files which appears in parentheses when you tag files for mass operations is not the true size before CP/M rounding, as many assume. It is the size of the file in blocks of 1K bytes.

If you are using a computer that allocates space in larger blocks, such as an Osborne 1 single-density system that uses blocks of 2K bytes (some others use blocks as large as 16K bytes; higher disk densities tend to employ larger blocks), the second size tells you how much space the file will take when transferred to a system that deals in blocks of 1K bytes. Osborne users, for example, can transfer files from a single-density disk and get the amount of space the files will take on a cumulative basis when transferred to a double-density disk.

DISK & NEWSWEEP: Selecting a Drive and a File

When invoking DISK or NEWSWEEP you can select the drive you want to be logged on initially or the files you want to deal with, or a combination of the two. You add a drive specifier in the usual manner, a space after the program name plus the drive letter and a colon. For example, `DISK B: ↵` will invoke DISK from the logged drive but deal with the files on drive B.

Likewise, you can specify the files you want to work on. For example, suppose you want to back up all your data files, which have the extension ".DTA". Invoke DISK or NEWSWEEP this way: `DISK *.DTA ↵`.

Once you have invoked DISK this way, you are stuck. You can't log onto a new drive and change the list of files to be worked with. NEWSWEEP, however, gives you the option of choosing a new "mask" when you change drives. The prompt when you type an `L` to change logged drives says `drive/user/mask`. If you omit the mask, *.* is assumed.

NEWSWEEP allows you to view and print squeezed files without having to first unsqueeze them.

While we're on squeezing, the previous article omits mention of the `R` for "Reverse" option. You can have NEWSWEEP squeeze the unsqueezed files and unsqueeze the squeezed files all with one command.

Another missed point is that while NEWSWEEP requires that you retag the files after a mass operation in order to do another one, DISK does not untag them, so that if you want to make backup copies on two disks, or are copying a batch of public domain files for several friends, you can simply enter `m` after changing disks to initiate the mass transfer of the same files to another disk.

You can't stop by your neighborhood RCP/M each weekend and see what the newest releases from the public domain are, the way you can stop in the bookstore and see the newest computer magazines.

The retag feature of NEWSWEEP is particularly useful when you want to reorganize your files — simply mass copy a batch of files to a new disk, type `a` to retag, `e` to erase, `t` to tag the files, and `n` for no prompt.

Also not mentioned is that the mass erase allows you the option of prompting before erasing, so that you can reduce the chances of deleting a file by accident.

Bob Wolff rightly warns that NEWSWEEP overwrites a file of the same name when copying. The NEWSWEEP documentation warns that this is true even if the status of the file has been set to R/O (read only). A word to the wise...

By the way, there's no mention of the fact that NEWSWEEP and DISK both do an automatic reset before copying (though I've had several failures to properly perform the reset from NEWSWEEP).

The version of DISK that I have is newer than the one Bob Wolff was working with — version 7.7B. It has a new feature, `g` for "Go to File". This works similarly to the `f` for "Find" option in NEWSWEEP as described by Bob, except that you must enter the full filename and extension or use wildcards. Just entering a letter or a few letters as the beginning of a filename (as you can with NEWSWEEP) will get no results.

For Osborne users the First Osborne Group (FOG) library has a 52-column version of DISK version 7.6, and if someone with MAC will assemble DISK77B.ASM after setting the equate for Osborne to "true" we'll have a 52-column version of DISK version 7.7B.

By the way, both DISK and NEWSWEEP display the space remaining on the logged drive when you hit the `?` key for the menu, and it's faster than typing an `s`, a drive specifier, and a Return, in two ways — it's one keystroke instead of three, and it works faster since it reads the value from memory instead of checking the disk again. Actually, DISK does this if you hit any key that is not a valid command.

There's one final feature of NEWSWEEP that you can't learn about without the documentation. Sometimes NEWSWEEP will refuse to squeeze a file. It checks to see whether any space reduction will be yielded, even one sector. If not, the file is simply copied without squeezing or, if the default drive and user were specified, nothing is done.

Recovering Erased Files

Who hasn't erased a file that they didn't mean to erase? Who hasn't erased a file that they meant to erase but now wish they hadn't? We've done it at my house. The first time we went to a meeting of Chicago's First Osborne Group we came home with a whole pile of disks of public domain software. My daughter Irene, then 13, found a graphics program in the batch and had a good time using the computer to draw pictures. It wasn't long before a lament was heard: the program had been erased by accident.

Fortunately, one of the disks we had copied at the meeting had UNERASE.COM on it. You see, CP/M is much too lazy to go in and actually rewrite all the sectors that contain your file to zeros. So instead it just goes to the directory area of the disk and changes a flag next to the filename. The flag simply tells CP/M that space is reserved for the file. When you "erase" the file, CP/M simply goes into the directory and sets the flag to indicate that the space is no longer reserved.

Of course the next time that you write to the disk you may be writing on the sectors that the erased file occupied, so it may no longer be there to "unerase". But, if you haven't used the space since you erased the file, you can UNERASE it.

Using UNERASE

Use of UNERASE is simple and straightforward. Let's suppose you erased RECIPE.FIL. With UNERASE on drive A and the disk with the erased file in drive B, type this command:

```
A>UNERASE <RECIPE.FIL> ↵
```

If unerase finds the erased file in the directory it will tell you:

```
Unerase Version 1.5 (01/03/83) for CP/M 2.2
RECIPE.FIL
File(s) Recovered - DOUBLE CHECK before using
A>
```

Now, suppose that you added a new recipe to the file, and the correct name of the file is actually RECIPES.FIL.

UNERASE only finds exact matches, and since you specified RECIPE.FIL, which is the wrong name, you'll get this baleful message:

```
Unerase Version 1.5 (01/03/83) for CP/M 2.2
File NOT found
A>
```

If you get the filename wrong, you can try, try, again... or switch to RECOVER.

Using RECOVER

RECOVER isn't quite as simple and fast to operate as UNERASE. That's a trade-off you'll see over and over both in the computer field and in "real life". Speed and simplicity are offered on the one hand, sophistication, power, complexity, and slowness on the other hand.

RECOVER is fully self documenting. You start it up by entering its name (assuming its on drive A; if not, put the drive specifier in front of the name):

```
A>RECOVER↵
```

The screen fills up with a menu:

```
File RECOVER program - Version 2.12 100-108
Works with CPM 2.X -- 06 Sep 82
Author - F. Roland Bjorkland
Copyright 1982 (c) MNH Applied Electronics Inc.
5501 Cherokee Ave #204 - Alexandria VA 22312

For non-profit use only - not for resale
ctl-C exits program at any input request
TYPE: 0 - Exit program to recovered drive
1 - Select the drive to recover files on
2 - List erased files on selected drive
3 - Recover erased files
4 - Print HELP message
?_
```

The "zero" option is obvious — "quit". Enter `4` and you'll get a screenful of help, mostly about how to use the CP/M wild card functions when recovering lost files.

Entering `1` causes the computer to log on to the drive selected. It's not necessary to log onto a new drive if you invoked RECOVER from the drive you want to recover files from. Simply enter `1`. RECOVER will prompt you:

```
Input drive where erased files are located - A,B,C,...P ?_
```

Enter `B`. RECOVER will "log in" the new drive and, as it will after each action taken, present you with its menu again.

Enter `2` and you'll get a list of files on the logged drive that have been erased, like this:

```
Erased file    = RECIPES .FIL   00
Erased file    = MAST    .CAT   00
Erased file    = MAST    .CAT   01
Erased file    = MAST    .CAT   02
Erased file    = MAST    .CAT   03
```

Now that you've found the correct name for the file you want to "unerase", you'll enter `3`. RECOVER will give you more Dear Danions and an opportunity to enter the filename:

```
Input file name to recover
CPM Wild Card Rules with * and ? apply
?_
```

Since you can use the CP/M wildcard entries `?` and `*` with RECOVER you can forget about reading the directory of erased files and simply enter `*.*`↵ here. (Note that this is the first time that RECOVER has made you hit the ↵. When you select one of the numbered options from the menu RECOVER acts without waiting for you to hit the ↵.

Since you don't want to unerase the other erased files on the disk, enter instead `REC*.*`↵. Using the wild cards is simply faster than typing the entire filename and reduces the chance that you'll be frustrated by a typing error.

Now RECOVER goes to work:

```
REC*.*
File to recover   = REC?????.???   00
File recovered    = RECIPES .FIL   00
```

Enter `0` to exit from RECOVER.

Finding Bad Disk Sectors

One of the worst things that can happen to a CP/M user is to get a message on the console `BDOS ERROR ON d: BAD SECTOR.` Since floppy disks are only made by humans, it's bound to happen from time to time. Sometimes the news is really bad, and unless you're an expert with the public domain disk utility DU.COM, you may find it impossible to recover the data on the bad disk.

For the rest of us there's FINDBAD. FINDBAD tests each sector of a disk non-destructively. When it finds a bad sector, it writes a file on that sector called [UNUSED].BAD. Whenever you use the disk CP/M will now know that there is a file on that sector and will not attempt to write to that sector. Since an attempt to read the sector is likely to generate another BDOS ERROR message, you will want to avoid telling the computer to read the sector, either.

When you have used FINDBAD and it has created an [UNUSED].BAD file, do not attempt to copy the file sector by sector using a COPY.COM utility, and do not use `PIP d:=s:*.*`↵ when the disk with the [UNUSED].BAD file is on whatever drive you use for the `s:` source drive.

To use FINDBAD put the disk with FINDBAD.COM in drive A and the suspect disk in drive B. Enter:

```
A>FINDBAD B: ↵
```

You should get a display like this as FINDBAD does it's job:

```
FBAD58 - Bad record lockout program - type ^C to abort
Testing system tracks...
Track n

Testing directory area...

Testing data area...
Track n

No bad blocks found

A>
```

The `n` displayed for the system tracks changes from 1 to 3 as FINDBAD does its work, and the `n` for the data area changes from 1 to 40. If FINDBAD locates bad blocks it will give the sector number in hexadecimal and report at the end how many bad blocks were found.

FBAD58, version 5.8 of FINDBAD, differs from earlier versions in two ways that I have discovered. As it is with many public domain programs, I found no document file with FBAD58. The first difference is apparent in the display above: older versions of FINDBAD didn't display the track number being checked, just a serious of asterisks across the screen. The second difference comes when you try to check a disk that already has a file called [UNUSED].BAD from previous use of FINDBAD. At first it seems as if everything is the same. You enter:

```
A>FINDBAD B: ↵
```

The display starts out the same:

```
FBAD58 - Bad record lockout program - type ^C to abort
```

But then there's a difference as the display continues:

```
Erase Existing [UNUSED].BAD file? (Y/N)
```

Older versions of FINDBAD automatically erased an existing [UNUSED].BAD file with the result that if the new run of FINDBAD didn't detect a bad sector, you were left with the previously detected bad sector now available for use again.

Checking Out The Bad Files

Now, there's still a dilemma. Which file(s) on the disk (if any) contain the bad sectors? If you try to use those files, you'll still have a problem since the directory will tell the computer to go to those sectors to get parts of the file.

Fortunately, there's a document file with FBAD56, written by the ubiquitous Irwin M. Hoff (at least that's my guess from the initials "IMH" on the file). Hoff suggests that you use CHEK15.COM to check out the bad disk. (We'll get into some other features of CHEK15 another time.) Put the disk with the [UNUSED].BAD file in drive B. Put the disk with CHEK15.COM in drive A. Type the following:

```
A>CHEK15 B:*.* ↵
```

CHEK15 will proceed to check all files on the disk. It will stop when it gets to a bad sector. The name of the program containing the bad sector will be the last one on the list at that point. Press Return again, and the program will restart at that point and continue.

Here's what you'll see on your screen:

```
----CHEK--------ver 1.5-------04/11/83----
    FILE        CRC    CHARS    RECORDS

[UNUSED].BAD
Bdos Err on B: Bad Sector ↵
Bdos Err on B: Bad Sector ↵
                A5 3D   2048    16

DISK    .COM    7D E7   4096    32
NULU11F1.AQM    70 38   1152     9
Done
A>
```

In this case the bad sectors were all in the file [UNUSED].BAD, so there's nothing to be done. Note that you may actually have to hit the ↵ (Return) more than once when you get the `Bdos Error` message.

If the bad sectors were located within a file, you could attempt to restore the file with a program such as DU or, if you have a backup (hint! hint!), simply erase the defective file. The [UNUSED].BAD file will prevent the bad sectors from being used again.

While we're mentioning backups, this is as good a time as any to remind you that there are three important things to do with a computer, just as there are three important factors in retailing: backup, backup, backup. I can't stress it too much. Gale Rhoades of the First Osborne Group notes in a recent issue of the *FOGHORN* that for the third year in a row FOG has had a disk crash in December, losing its entire data base. With adequate backup now, it was only necessary to reenter one day's membership updates, instead of reconstructing the list from scratch the way it was done the first time. Do back up your important files.

VDO Revisited

I mentioned VDO, a Video Display Editor, in my first column. Unfortunately, I didn't have much information about VDO at the time, I just knew it was a WordStar-like

> ***Most of the free software I get comes from RCP/Ms, but the rest of the task is the same: I still have to extract document files from libraries, unsqueeze them, and print them, but life is made much easier with NEWSWEEP.***

4K line editor that would load a file up to about 52K bytes long into memory and allow rapid editing. What I didn't realize at the time was that the version of VDO that I had was set up to run only on an Osborne 1.

In the January-February 1985 issue of *The Portable Companion*, a magazine for Osborne owners, Cheryl Peterson wrote at length about VDO, noting that it was designed by Richard Fobes and published in *BYTE* magazine in September and October 1982, including full source code. Peterson reports that Fritz Schneider, a member of the Dallas Osborne Group, decided to rewrite it for the Osborne 1. Martin Murray modified it to get it running on the Executive. Peterson reports bad news for Kaypro owners who read *The Portable Companion*: "Because Kaypro computers don't use the same memory mapped video, they won't run VDO."

I distributed VDO2A.COM on my distribution disk with *User's Guide* #11-12. I had several reports from readers who couldn't get it running, for obvious reasons — it was specific to the Osborne computers. A few days ago I ran across VDOKP.LBR. I checked it out. VDO version 2.3, included in the library, is for the Kaypro.

The version of VDO in VDOKP.LBR is based on the Fobes article, modified in turn by Spite Software, Bill McTeer, Don Krantz, Mike Rejsa, Don Krantz again, and finally by James H. Whorton. The present version "bears almost no resemblance to the original, except that both purport to do full screen editing", according to the ".DOC" file in the library. It doesn't bear a lot of resemblance to the Osborne versions I've seen either.

Despite the indication that this version is for the Kaypro, it runs on my Osborne 1. There are a few anomalies — `^O` seems to be required instead of `^Q` for the "quick" functions. But it seems to work as described.

Since I don't have a Kaypro, I can't say how it will run on the Kaypro. I haven't found the source code for this file yet, so even though the documentation says that four equates in the source code allow you to configure VDO version 2.3 for the Osborne 1, Zorba, Ferguson BigBoard, DEC VT52 terminal under CP/M, and the Kaypro, I haven't been able to check it out. I'll be on the lookout for the source for this file. If you find it, please drop me a line at the address at the end of the file.

VDO 2.3 Mimics WordStar

VDO version 2.3, is more like WordStar than Osborne VDO2A. Cursor movement by `^S`, `^D`, `^A`, `^F`, `^E`, `^X`, `^R`, and `^C` are all identical to the WordStar functions. Insert is toggled on and off with `^V`, `^L` repeats a find or find and replace command (`^U` for the Kaypro version), `^T` deletes a word to the right, `^Y` the whole line, `^G` the character right of (under) the cursor, DEL (^- on the Osborne) the character left of the cursor.

The "quick" commands of WordStar are also mimicked. `^QF`, `^QA`, `^QB`, `^QK`, `^QR`, and `^QC` all work essentially as in WordStar, though when I ran it on my Osborne, as I said, the quick commands ran under `^O` instead of `^Q`. Block commands follow the same scheme, `^KB`, `^KK`, `^KC`, `^KV`, `^KW`, `^KR`, `^KX`, `^KQ`, and `^KS` are all the same as in WordStar.

There are some differences from WordStar, of course. VDO doesn't have word wrap, or reformatting, or dot commands, or merge-print (MailMerge) facilities. To print the file you use `^KP`. Tabs are set to 8, 2, 4, or 16 with `^QT`. When you save a file VDO does a reset, so you can change disks at will, to make backup copies, or to put in a disk that has more space.

NULU Gets CRC Verification

Martin Murray has responded, promptly, to the requests of many to add CRC verification to NULU. Unfortunately I discarded my copy of the NULU version 1.0 documentation before I realized that I didn't know what else Murray had done in moving to version 1.1.

NULU has a good many features that make it easy to work with for those whose needs are simple, plus a complex command language structure for those who want to automate repetitive tasks with LBR files. It will merit a full tutorial column all by itself, but it will take a while before I become sufficiently familiar with NULU to do it. Besides, there have been a few bugs reported, and I'll be watching to see that they get fixed.

Next Time

I've received a number of suggestions from readers about what to write about. One of the best was to find some application programs of general usage instead of just utility programs. I suppose that modem software might fall in that category, but the reader who wrote the letter wanted spelling checkers and data base management.

So next time around we'll be looking at DIMS — Dan's Information Management System — and PC FILE, Jim Button's user supported file management program. There's also a public domain spelling checker that we'll look into.

Getting Software Mentioned in This Column

You can get disks with the programs discussed in each column that I write. At the end of the column I list the programs. You send a check for $6.00 for each disk you want to me, **Benjamin H. Cohen**, at **Box 1674, Chicago, IL 60690**. A return address label would be nice.

Specify the format, please. If it's Osborne 1 SD or DD, TRS-80 with CP/M (specify model), Xerox 820 SD or DD, Actrix, Morrow MD-2, Kaypro, Zenith Z90, Heath Z100 CP/M, Heath with Magnolia, TI Professional or IBM-PC CP/M or MS-DOS format I'll make up the disk and ship it back to you promptly. For other formats, I have arrangements with a reader of this column who has a Disk Maker® which handles 170 formats, including 8" formats, so you'll have to wait just a little longer. The price, however, will be the same. I'm working on a connection that will allow me to provide Apple format disks, but don't ask for for any hard sector formats, we don't have facilities to make them.

No warranty is made that particular programs will run on particular computers.

This Issue's Disks

There are three distribution disks this issue. Actually, two are "repeats" from last issue, after a fashion. First there's the NSWP (NEWSWEEP) and DISK7 disk. That was distributed with any order from last issue. If you didn't order, you can get it now as Disk #6. It has full information on patching to show flags plus patched versions for Osborne and Kaypro.

Disk #7 covers NULU version 1.1. You'll get LFIND.COM, a utility to search all drives and users for library files and check each one for members that match a specified ambiguous or unambiguous filename, to be explained in next issue as a "short subject". Also included with NULU will be the various related utility files, such as LRUN, LCRCK, and LDIR.

Disk #8 covers the other files mentioned this month:

RECVER21.COM
UNERA16.COM
FBAD58.COM
CHEK15.COM
VDO-KP.COM

The relevant document files and source, when available, will be included. Last issue I ventured to list version numbers for some files. By the time the magazine was published there were later versions available. I won't be surprised if that happens again.

All of the disks from prior issues are available. *Please* specify which disk you want and what format.

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CP/M-86 •

WordStar & The Prowriter (The C-Itoh 8510 Printer)

How to connect, install and use the C-Itoh 8510 printer (the Prowriter) with WordStar version 3.0.

by Jay C. Jaeckel, Roger C. Schlobin, and Gary K. Wolfe

Jay C. Jaeckel is Midwest Sales Manager for Morrow Designs. Roger C. Schlobin is an Associate Professor of English at the North Central Campus of Purdue University. Gary K. Wolfe is the Dean of Continuing Education at Roosevelt University.

Among the numerous inexpensive dot-matrix printers that have recently appeared in the marketplace, the C- Itoh 8510 is one of the most outstanding. The Prowriter ($600, for 10-inch carriage) and Prowriter II ($800, 15-inch carriage), as they are known in this country, are distributed by Leading Edge Products (225 Turnpike St. Canton, MA 02021 800-343-6857). As is usual with most printers, both models are available at significant discounts.

The 8510 has certain features that exceed those of another recent dot-matrix superstar, the Gemini, and it is also faster than the Gemini (120 characters per second). The 8510 is compact (desk-top size), has low-power consumption, and probably produces better print quality than the Gemini. It

```
^PB THE PROWRITER AND WORDSTAR WORK WELL TOGETHER!! ^PB


MY WORDSTAR FILE CAN MAKE THE SCRIPT DO ALMOST ANYTHING I WANT

IT TO DO.


^PB BOLDPRINT YOUR TEXT. ^PB

^PD DOUBLE PRINT YOUR TEXT. ^PD

^PY OF COURSE YOU CAN UNDERLINE TEXT ^PY

^PS AS WELL AS UNDERSCORE ^PS


SUPERSCRIPTS ^PT 12 ^PT AND SUBSCRIPTS ^PV 13 ^PV ARE NO PROBLEM.


^PA IT CAN HANDLE ALMOST ANY FORMAT - ^PW

^PR VERSATILITY IS NO PROBLEM. ^PW


^PQ LIMITS ARE FEW. ^PW

^PN YOU CAN HAVE REGULAR PICA.

^PR OR YOU CAN HAVE ELITE. ^PW

^PQ And, of course, COMPRESSED. ^PW^PE
```

Figure 1. *The test file supplied by Leading Edge.*

has a 2K memory buffer and includes graphics and five different language sets (American English, British English, Japanese, German, and Swedish).

The Prowriter prints in 10-pitch, 12-pitch, proportional-spaced printing (not used by WordStar), expanded-pitch, and compressed-pitch (17-pitch). It prints super- and subscripts, boldface, and underscore. It does not support microjustification nor does it respond to WordStar's line-height commands. It does respond, when configured properly, to most of the other WordStar print and dot commands. Most models come with built-in tractor feeds with a very nifty paper roll optional.

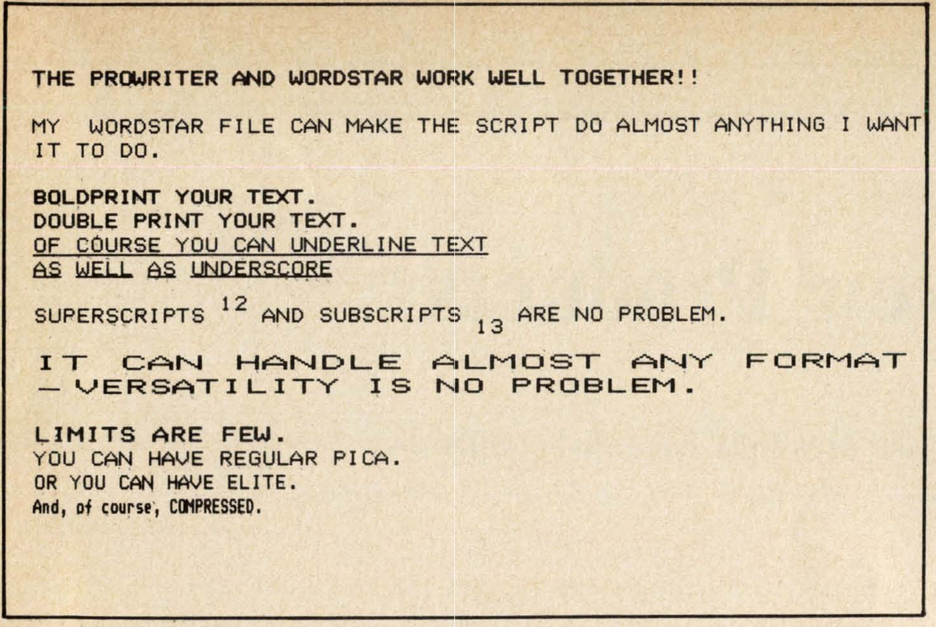
As veterans of the paper-installation wars know, the task of configuring of a printer not named in WordStar's INSTALL.COM menu can be an arduous puzzle. A printer manual is not enough, not even with the two manuals supplied with the 8510 (one from the parent company in Japan and the other from Leading Edge). While the user can now buy a program like WordPatch ($49.95 from Rocky Mountain Software, P.O. Box 3282, Walnut Creek, Ca 94598-0282), there is a particular satisfaction in doing it yourself and saving the money for a couple of boxes of disks.

The following installation is endebted somewhat to the one that Leading Edge supplies for the IBM PC version of Wordstar 3.20 (call or write for it). To use this information effectively, you must be able to use Digital Research's DDT.COM (Dynamic Debugging Tool) or WordStar's Patcher (see *User's Guide* issue #8, "Patching With DDT and Save", or issue #2, "WordStar Installation Guide" for more on the WordStar Patcher, or see the Installation section of the WordStar Manual — 3-9 to 3-10, all of section 7, and Appendix F).

Remember to use colons after the labels when using WordStar's patcher. All values given here are in hexadecimal (base 16), which is consistent with what both DDT.COM and WordStar's

WordStar label	location	Old value	New value	comment
POSMTH:	690H	01	FF	Printer: general characteristics.
BLDSTR:	691H	02	04	Number of passes for bold print.
DBLSTR:	692H	02	02	Number of passes for double strike.
PSCRLF:	696H	02	03	String for carriage return and line feed. Note the two 0A's that are line feeds.
	697H		0D	
	698H		0A	
	699H		0A	
PSHALF:	6A8H	00	05	String to output one-half line feed and carriage return for super- and sub-scripts.
	6A9H		0A	
	6AAH		1B	
	6ABH		54	
	6ACH		31	
	6ADH		32	
PALT:	6B5H	00	01	Set Alternate Character width.
	6B6H		0E	
PSTD:	6BAH	00	01	Reset to Standard Character width.
	6BBH		0F	
USR1:	6C9H	00	02	User 1 function.
	6CAH		1B	
	6CBH		51	
USR2:	6CEH	00	02	User 2 function.
	6CFH		1B	
	6D0H		4E	
USR3:	6D3H	00	01	User 3 function.
	6D4H		1B	
USR4:	6D8H	00	02	User 4 function.
	6D9H		1B	
	6DAH		45	
RIBBON:	6DDH	02	02	Ribbon on.
	6DEH	1B	1B	
	6DFH	41	58	
RIBOFF:	6E2H	02	02	
	6E3H	1B	1B	
	6E4H	42	59	
PSINIT:	6E7H	03	05	Printer initialization String.
	6E8H		0A	
	6E9H		1B	
	6EAH		54	
	6EBH		31	
	6ECH		32	
PSFINI:	6F8H	03	05	Printer termination string.
	6F9H		1B	
	6FAH		41	
	6FBH		0F	
	6FCH		1B	
	6FDH		4E	
ULCHR:	70CH	5F	80	Underline character.

Figure 2. *WordStar labels and new values.*



```
THE PROWRITER AND WORDSTAR WORK WELL TOGETHER!!

MY  WORDSTAR FILE CAN MAKE THE SCRIPT DO ALMOST ANYTHING I WANT
IT TO DO.

BOLDPRINT YOUR TEXT.
DOUBLE PRINT YOUR TEXT.
OF COURSE YOU CAN UNDERLINE TEXT
AS WELL AS UNDERSCORE

SUPERSCRIPTS 12 AND SUBSCRIPTS 13 ARE NO PROBLEM.

IT  CAN  HANDLE  ALMOST  ANY  FORMAT
— VERSATILITY  IS  NO  PROBLEM.

LIMITS ARE FEW.
YOU CAN HAVE REGULAR PICA.
OR YOU CAN HAVE ELITE.
And, of course, COMPRESSED.
```

Figure 3. *The printed result after the installation.*

patcher require. The values for WordStar's patcher are listed under "Label," those for DDT.COM under "Location."

Before getting to the installation, there are two other vital pieces of information:

1) The dip switches in the 8510 should be set as follows: SW1 must have 1, 3, 4 and 8 open (off), the rest closed. SW2 should have 7 closed (on).

2) If WordStar's INSTALL.COM is used (and it must be at some point for the general terminal and printer configuration), after selecting the appropriate terminal in WordStar's INSTALL.COM, then, select the following choices as requested: `Teletype-Like Printer`, `No Communications Protocol`, and `CP/M List Device (LST:)`. When asked if the modifications are complete, type `N` and proceed into the WordStar patcher. Type the WordStar labels and new values as shown in figure 2.

Leading Edge supplies a useful file (figure 1) to test the installation. It also serves to illustrate the new print commands. If the installation is correct, the file should look like figure 3.

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Thanks for filling out the questionaire on the card. This feedback helps us plot an editorial course, and the answers provide demographic information to media planners. The more responses this magazine can generate, the more it can grow in pages and in product coverage. We appreciate your support.

The press announcements in this section have not been checked for accuracy, and we cannot verify that the products are available at this time. In most cases we do not have the products in-house, and they have not yet been reviewed in this magazine. Therefore, take claims of product features and benefits with a "grain of salt."

Computers & Systems

New NEC Portable

NEC Home Electronics announced the PC-8400 series. This portable desktop computer comes with 64K RAM, built-in business software and modem, an expanded 16-line by 80-column LCD (display) with an optional CRT adaptor and floppy disk drive, all for under $1000.

The PC-8401A CPU is shipped with 64K CMOS RAM and built-in ROM-based software programs including WordStar-To-Go® (word processing), Calc-To-Go (spreadsheet), Personal Filer (filing system), telecommunications, and CP/M® utilities. This built-in software always leaves 32K user RAM available, rather than the 24K user RAM left over by many similar computers.

There is a system slot to add a 32K RAM cartridge. A lightweight 320K double-density disk-drive with an optional second disk drive is available, as well as a data recorder. There is a 300 baud built-in modem, and an optional 1200 baud modem cartridge is available.

The PC-8401A comes with a standard parallel port for use with most printers, as well as a serial port. Most CP/M 2.2 software will run on the PC8401A with a CRT adaptor and a monitor, provided it is properly configured for the $3^1/_2$" floppy disk format.

For more information, contact:
NEC Home Electronics (U.S.A.) Inc., 700 Nicholas Blvd., Suite 10, Elk Grove Village, IL 60007. (312) 228-5900.

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CompuPro 286

CompuPro announces the first 16-bit multi-user business computer system based on an 80286 microprocessor with featuring 8-bit slave processing capabilities. The CompuPro 286 is a multi-processor bus-based desktop unit which as supplied will accommodate four users, but can be expanded to as many as 14 users by simply plugging in additional slave processors. Concurrent DOS 8-16, which runs on the 286, allows simultaneous execution of both 8-bit and 16-bit programs and has record locking and file sharing features.

In addition to the 80286 CPU, and the slave processor which includes an on-board Z80, 64K of RAM and one serial port, the basic CompuPro 286 comes standard with 512K of main memory, an 800K $5^1/_4$" hard disk, one parallel and one Centronics printer port, and four serial ports. Software includes CompuPro's Concurrent DOS 8-16 operating system, NewWord® word processing, SuperCalc 2® electronic spreadsheet

Continued on page 61.

Return of the Sleaze Patrol

or

All Gall is Divided into Three Parts

Well—I did it. Although both the books I was working on ended up being much longer than I had planned, I managed to finish them with everything intact but my sanity.

Even when I was totally immersed in the books, I spent my spare moments thinking about this column. And I came to the conclusion that I should expand my field of inquiry somewhat.

Now don't panic. I have no intention of modifying my basic purpose—which, as I stated in the first column, is "to expose to the searing light of day those who seek to dishonor and debase our beloved microcomputer community." And I'm still personally committed to getting ripped off as much as possible. For example, later this week I'll be going to a computer show where I plan to buy a lot of useless and defective products that I can't return.

But one man is not enough. Even a shlimazl like me can't generate enough tsuris to fill a bimonthly column by himself. (Curious what those picturesque Yiddish words mean? You need *Every Goy's Guide to Common Jewish Expressions* by Arthur Naiman.)

Some of you have written in to tell me of your troubles, and hopefully even more of you will contribute in the future. But I have never depended on the kindness of strangers.

So I'm going to widen my scope a bit, and create three new sections:

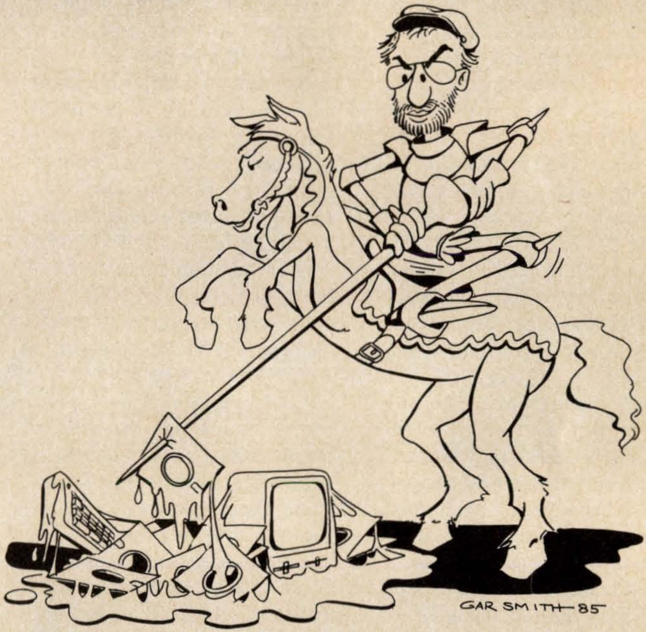
- **Mini-Sleaze**;
- the **Incompetance Corner** (the name is intentionally misspelled, of course); and
- a list of cases **Under Investigation**.

I'll spend the rest of this column discussing them.

Minisleaze

This category is for activities that don't actually cheat people out of money, but are still sleazy enough to be worth mentioning. An article in the February issue of *Macworld*—describing how Peat Marwick, a large accounting firm, uses the more than four *thousand* Macs they bought for auditing—is a perfect example.

Actually, "article" isn't quite the right word; "brochure" is more like it (although I can't believe that Peat Marwick—or any other company—would actually sign their name to anything so shamelessly self-congratulatory). Steve Rosenthal kept looking for the words PAID ADVERTISEMENT across the top and bottom of each page. He says that evaluating this puff piece as straight journalism misses the point; it really belongs on the food page, where it would win the prize for Soufflé of the Month.



THE SLEAZE PATROL

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Anyway, this ... what shall we call it? ... begins with a picture of three yuppies, all dressed for success, seated around a desk. They're studying some pieces of paper with a dedication I had previously assumed was only to be found in missionary doctors, firejumpers and Islamic fundamentalists on suicide missions. The caption reads: "7:10 a.m. Already at work as the sun rises over the bay, an audit team holds a strategy session at the Tampa, Florida, office of Peat,

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Marwick, Mitchell & Co." (The caption goes on, but I won't.)

Through the window, the sun pours in like butterscotch, filling up their senses, but they pay it no mind. These people are *all* business. Just listen to their titles: "senior manager," "managing auditor," "supervising manager." (How businesslike can you get? I can't even figure out what they mean. I assume the whole audit team reports to a "managing supervising manager," whose boss is a "senior supervising manager of managing supervisors.")

Next we have several pages of text and pictures describing the audit itself—which, mercifully, I will spare you. As is the practice in old-fashioned movies when people are about to get it on, I'll just swell the music, pan up to the clouds, and only return to earth when the raw primitive savagery of the audit has slackened and our "audit team members [are having] a relaxing lunch at a Gulf Coast restaurant."

Ah, but don't imagine that they're goofing off—far from it: "The midday break is an opportunity to assess the progress of the audit and to plan the rest of the workday." (I always thought the midday break was an opportunity to *eat*—I guess that shows how little I know about modern business procedures.) The article fails to mention what opportunities going to the bathroom provides—since it's only eleven pages long, it can only scratch the surface—but I would guess that Peat Marwick auditors only do so in order to "meditate in tranquil surroundings on the progress of the audit."

The article creeps interminably along, until 5:52 p.m., when we find our audit team standing on the edge of the Gulf, with the sun setting behind them. Clear-eyed, competent, dedicated and obviously ready for another eleven-hour day tomorrow, they're like something out of every corporate personnel director's wet dream. "Just give me a thousand people like this, J.B., and I'll conquer the world. Oh, and by the way, let's have Peat Marwick do our next audit."

You can't really blame the author of this nauseating piece of hype—he works for Peat Marwick and is presumably just doing his job. You can certainly blame *Macworld* for running it—but even there, there are extenuating circumstances.

First of all, I should say that *Macworld* is a wonderful magazine in many ways—always beautiful to look at, usually full of interesting information, and often well written. Its greatest failing is the flabbiness it displays whenever Apple—or some company whose fate is intertwined with Apple's—needs to be criticized. (It does publish a fair number of criticisms in its letters column, but very seldom voices them itself.)

This is—unfortunately—quite understandable. Apple's strategy for controlling publishers and writers is to dispense confidential information only to its favorites. Needless to say, Apple's critics—even loving critics who only want the best for Apple—are not to be found among the favored, any more than Voltaire was an honored guest in the court of Louis XIV. (No, wait—that analogy's no good. Who would be the equivalent to Louis XIV at Apple?)

Thus certain authors, journalists, magazines, etc. find out about things months before others do. Without this inside dope, there's no way for a computer magazine to survive. So it's no wonder that *Macworld* is loath to blow its most-favored-publication status. If they began taking a more critical stance, they'd soon find themselves hearing about new Apple products six days before they're announced, instead of six months.

Even so, reading that Peat Marwick article made me feel like I was completely covered with the kind of suntan lotion you don't have to reapply each time you go in the water.

Incompetance Corner

Jonathan Sachs suggested this category by telling me about a card The Source sent him with his user name on it. They told him to *write his password on it.* (Otherwise, if he lost it, the person who found it wouldn't be able to use his account.)

In the eyes of the law, incompetence is often considered to be equivalent to actual crookedness. For example, if you want to get punitive damages from someone (that is, make them pay you double or treble the amount of money you actually lost, as a punishment), you have to show, among other things, that they were guilty of either "willful misconduct" or "gross negligence."

Willful misconduct is what this column was originally set up to deal with, but gross negligence—massive incompetence—is much more common; in fact, if you've bought any product or used any service in the last twenty years, you know that it's virtually universal. It can have equally disastrous effects, which is why it also qualifies for punitive damages (and for inclusion in the Sleaze Patrol).

Since incompetence is pandemic, it's hard even for competent and honest businesses to totally avoid it. However much they do the right thing themselves, they can't always control their suppliers. This was the case when the Whole Earth Software Catalog and Review hired a San Diego company called Publishers Aide (a misnomer if there ever was one) to do "order fulfillment" on a special package deal.

You got (or were supposed to get) five issues of the *Whole Earth Review* and the *Whole Earth Software Catalog* ("it should reach you before it's in many stores")—a $32.50 value (at list prices) for $19.09. The magazines arrived OK but not the catalog. The problem was so bad that Stewart Brand called it "the worst thing we've ever done to our readers" and will be apologizing for it in an upcoming issue of the *Review.*

When you're dealing with a moral outfit like Whole Earth, screw-ups like this aren't so bad. You have the hassle of having to call them up, make a copy of your check, mail it in to them, and then wait longer for your catalog than you'd planned. But you do get it eventually, and that's more than you can say for some companies.

Of course you may decide that you don't want to wait, you'd rather just go into a bookstore and buy a copy. You should know that you do have that choice. Here are the basic legal points:

1. When you respond to an ad, and the company responds to your response—by cashing your check, processing a charge slip on your account, filling part of your order, or whatever—a contract is created.

2. Any contract has an implicit provision requiring that the obligations specified in it be performed in a reasonable amount of time. (Some contracts also have explicit provisions; if so, they're the ones that count.)

3. If the obligations aren't performed in a reasonable amount of time, you have the right to rescind the contract and demand a refund of the entire amount you sent in (although you must also offer to return any portion of the order you've received).

Terminating a contract is likely to be a lot more trouble than just sending a copy of your check. But you should keep these points in mind when you're dealing with companies that are less responsible than Whole Earth.

Well, fellow victims, those are the three parts of gall—outrageous rip-offs, minisleaze and gross incompetance...er...-tence. Send me your nominations in any or all categories for inclusion in future columns. Some *User's Guide* readers have already done that, and their cases are...

Under investigation

You're probably curious to know what happens when you send a letter to the Sleaze Patrol. First it's logged, and then it's immediately assigned to one of our hard-boiled private detectives.

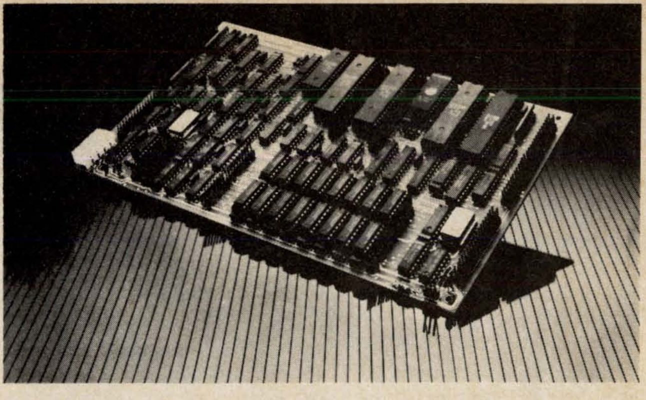
He—it's always a he—reads the letter, chews his lip, takes a bottle of cheap whiskey out of his desk drawer, splashes some of it in a tumbler, takes a slug, lights a cigarette, puts one foot up the window sill and stares out the window through a wreath of cigarette smoke, lost in thought. The phone rings, but he doesn't answer it. After a long time, he puts on his hat, goes out, and drives somewhere.

At the present time, the following cases are under investigation:

- Henry P. Seufert wrote to complain about an accounting package called *Business Master Plus* that he bought for $300 but couldn't get to work. (He also had some good things to say about Micro Art Programmers' personal bookkeeping and mailing list programs.)
- W.F. Gephart wrote to complain about two programs called *Fast Format* and *Fast Copy* that he bought for $30 (from a Canadian company called Computron) but couldn't get to work on his Kaypro 10.
- Dr. William M. Crutcher wrote to complain about Articulate Publications' *MicroMed* program, which he bought from a local distributor called Texas Medical Computers for $2000 (!), and also about Univair International's *Super Ledger Accounting*, which he paid $150 for. Neither of these programs would run on his Xerox 820 II. (Dr. Crutcher contrasts these with Borland International's *Turbo Pascal*, which he calls "a great package for $50.")

Would you like to be a private detective for the Sleaze Patrol? You get to smoke real cigarettes and talk out of the side of your mouth, but the training is tough—you have to learn how to wisecrack, get beat up and come back for more,and make cynical comments about corrupt policeman, two-timing women, and the decay of Western civilization.

If you think you can make the grade, send $2.98 and the words *User's Guide* from the cover of this magazine to Sleaze Patrol Private Eye offer, Box 1935, Gotham City. I'll send you the first lesson—Effective Sneering—by return mail.



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FOG

The **FIRST OSBORNE GROUP** (**FOG**) has been formed as a User's Group for persons using or interested in portable computers and/or the CP/M disk operating system with related software. In December of 1984, there were over 15,000 members from around the world. Most attend local group meetings at over 300 locations.

Computer systems owned or used by members include the Osborne 1 (single and double density), the Osborne Executive 1, all models of the Morrow MicroDecision, the Zorba, all models of the KayPro, several MicroMates, and many more. Special interest groups organized to augment a network of local group meetings include dBase II, Ham radio operators, Personal Pearl.

FOG was started in October of 1981 by a small band of early buyers of the Osborne 1. The primary purpose was to organize a library of public domain software to run on the Osborne 1. A newsletter was quickly started to act as a focal point for the group's activities. The large number of excellent contributions to both the library and the newsletter has produced a library of 230 disks (as of December, 1984) and a nicely typeset (70 or more pages) monthly publication. All back issues of the ***FOGHORN*** are available for a nominal fee which includes shipping in the U.S. Contributions are currently being solicited for bulletin board systems in addition to the thirty currently in operation. Most systems accept both 300 baud and 1200 baud. Phone numbers for the first systems are:

System #1 — Daly City, CA	(415) 755-2030	24hrs/7 days
System #2 — Vancouver, BC	(604) 596-0314	24hrs/7 days
System #3 — Daly City, CA	(415) 992-8542	24hrs/7 days

Each of these systems will have a file listing phone numbers for the other systems.

While the meetings are organized on a local basis, over 130 of these local groups have joined the FOG network, thus increasing the sharing of information, tips, problems and so on. Those local groups which opt to formally join the FOG network receive a portion of local member dues to assist with the cost of maintaining a local copy of the disk library.

The FOG library is currently maintained on the Osborne 1 single density format but separate libraries are being established for the other computer formats. The library files are carefully screened and divided into category types (utilities, games, applications, and computer languages are the four major categories). Programs which contain run or other errors are put into the hacker section so interested members can fix them and resubmit for inclusion in the correct section. Items which do not fit into one of these categories are in the miscellaneous section. A catalog and descriptions of all the discs is maintained in the library section.

Dues in FOG are $24.00 per year. This entitles each member to a copy of the ***FOGHORN*** each month as well as access to the disk library. Local group meetings are open to the public without charge although access to the disk library is restricted to the membership. The FOG library contains only public domain software. Piracy (the copying of proprietary software) is strongly condemned.

In the United States, the ***FOGHORN*** is normally mailed by non-profit bulk mail. (FOG is a corporation in the state of California and has obtained its non-profit, tax exempt status from both the state and federal governments.) For those members who live out of the country or who prefer first class delivery of their ***FOGHORN***, additional postage must be added to the annual dues. See the chart below for details.

If you are interested in joining a self-help organization to increase you knowledge and the use of your computer, use the application below (or a copy of it). Generally, memberships received at the FOG office prior to the 15th of the month are entered in time to receive the next month's ***FOGHORN***.

If you know of a local group which might be interested in joining the FOG network, please send all details (meeting dates and places, officers, and how interested local computer owners can join). We will send you an information packet on becoming an Affiliated Member Organization.

For your records, the address of FOG is P. O. Box 3474, Daly City, CA, 94015-0474. Please allow at least two months for the arrival of your first ***FOGHORN*** since bulk mail can take as much as nine weeks. (The post office says that it should only take about three weeks for non-profit bulk mail but some members on the East Coast have experienced longer delays.) A membership card will be processed within two weeks of the receipt of your dues.

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Phone: (415) 755-4140

Be sure to include any required postage surcharge per chart above.
Your membership card will be sent by 1st class mail.

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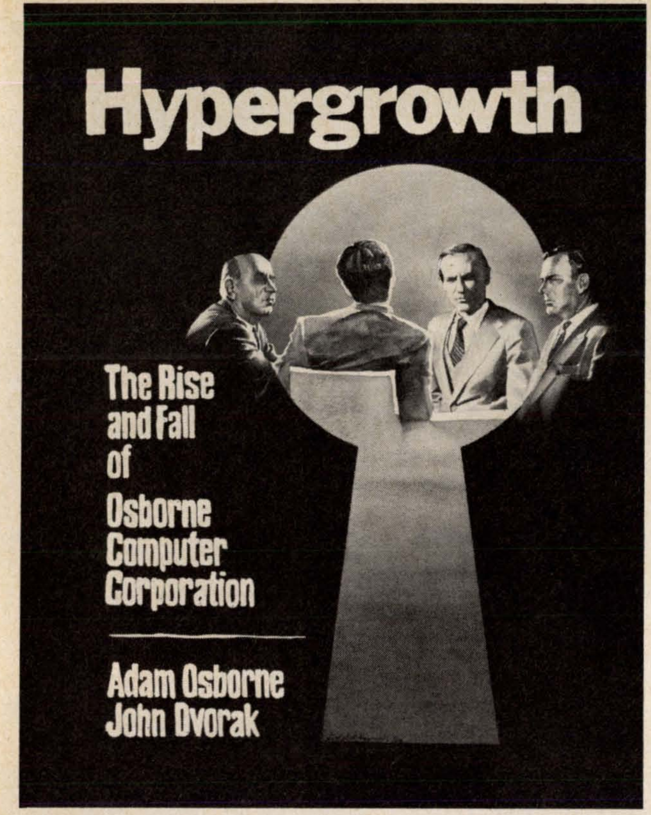

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“At Osborne Computer Corporation one of the keys to success was a certain "Us vs. Them" mentality that the company used in its dealings with the outside world. Unfortunately the "Us vs. Them" mentality was a projection of the "Me vs. You" competitiveness that was rampant throughout the company. Interviewing ex-Osborne employees reminded me of the classic old Nast cartoon depicting the Tammany Hall gang. Everyone was pointing a finger at everyone else until a circle was completed creating an infinite loop of accusation.

So we took one perspective — Adam Osborne's. His perspective was the most interesting, the most entertaining and the most complete. This is his story.

Osborne Computer Corporation was the fastest growing company Silicon Valley had ever seen. It shipped its first computers in July of 1981... In its first full fiscal year ending February of 1983 net revenues reached one hundred million dollars... Six months later the company filed for bankruptcy amid a roar of publicity that turned the bankruptcy filing into a newsworthy event of nationwide, even worldwide proportions.”

Circle 10 — reader service card.

Letters *continued from page 39.*

add that I keep all twelve issues of *User's Guide* near my desk for handy reference.

Different Subject: Spellbinder was mentioned on page 65 of #13. We have used Spellbinder for over two years and have been very satisfied with it. The program takes good advantage of the function keys on our TeleVideo TS 802H and also it controls our Diablo 630 printer better than any other word processor I'm aware of. Spellbinder has many features, so it takes some effort to become proficient in its operation, but I feel it is no harder to learn than WordStar. I'm confident your upcoming Spellbinder tutorial will alleviate many of the fears people have of this excellent word processing program.

Best wishes for continued success with your publication. With editors changing positions like musical chairs, it is refreshing to see a magazine succeed for over two years with the same staff.

Fred K. Fox
Delhi, CA

The tutorials on Spellbinder are in the works and should be published this spring and summer.

ESCapades is Fluff

We have been loyal subscribers since Issue #1 and find *User's Guide* the one computer periodical we can wholeheartedly recommend to any friend who joins the computer community of users. Having CP/M equipment, we gulped a little when you added MS-DOS, but still continue to look forward to every issue.

Issue #13 arrived two days ago, and I must now break down and express my dismay at your new addition, "ESCapades." We get *User's Guide* for the in-depth tutorials it contains. For "fluff" I get *InfoWorld*, and plan not to renew my subscription — even though it brings me more timely "news" of the computer world. For a bimonthly to carry such "news" is really a waste of valuable space, especially since anything really newsworthy is also reported in many daily newspapers.

Please, go back to what you do best, being the best "user's guide" around!

Nina S Seco
Seattle, WA

We devoted six pages (counting "Sleaze Patrol") out of 76 on the "ESCapades" section; this magazine is and will always be a "user's guide," not a news magazine. Each issue has had one (or less!) articles and cartoons "about the industry" that we felt were entertaining. The purpose is to provide "light reading" in one small section of the magazine, so that we can publish the illuminating (and uncensored*) comments of the some of the best writers in the industry.*

Magazines like InfoWorld *take their roles and their news stories too seriously to be really entertaining (and some of them, when they try to be entertaining, provide only "fluff"). We like to think that our "ESCapades" section is the computer industry's equivalent to the "Frontlines" section of* Mother Jones, *together with columns that resemble "Uncivil Liberties" (Calvin Trillin) and "Beat The Devil" (Alex Cockburn) columns of* The Nation. *Neither of those magazines pretend to be* Time *or* Newsweek, *but they fill a need.*

"Sleaze Patrol" by Arthur Naiman and "Books" by John Barry will be regular features. Funny that both writers proposed their columns to InfoWorld *(Barry's ran for about two years), but they are not published there now.*

We invite your comments (so far the tally shows many more positive than negative replies) and we'll try to make "ESCapades" worth reading and worth keeping. *We don't expect it to spark a literary revival among hackers, but we hope that this section adds sparkle to the magazine. We want* User's Guide *to be the most interesting magazine to* read *as well as the most useful to "execute."*

We invite your letters to the editors. Send them to:

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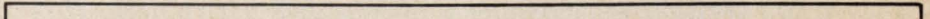

"Cool Cat" digs mouse.

New Products *continued from page 54.*

and AMCALL/MCALL modem communications. Convenience features include interval timers, clock/calendar, interrupt controllers, and battery backed-up RAM.

Hardware options available for the 286 include an ARCnet compatible network board, CompuPro's MDRIVE/H solid state disk emulator in increments of one or four megabytes, more RAM and serial ports, additional slave processors and hard disks, a 10Mb tape cartridge and an 80287 math processor.

The suggested list price for the four-user configuration is $9,995. CompuPro, 3506 Breakwater Court, Hayward, CA 94545. (415) 786-0909.

Circle 52 — reader service card.

Z System

Echelon, Inc. announced the Z System, an 8-bit operating system upward compatible with CP/M-80 that works with the Zilog Z80, the Hitachi HD64180, and Z800 microprocessors. The Z80-based Z System has re-entrant DOS and increased maximum disk and file sizes. Z System replaces CP/M, but adds enhancements, such as auto-login of changed disks, file copy archiving, password write-protected files, and more. Z was produced by efficiently combining ZCPR3 and ZRDOS.

A complete set of software development tools supports Z — macro relocating assembler, linker and librarian, translators, disassemblers, and two dynamic debuggers, one screen oriented.

The Z System includes named directories, file manipulation shells, menu and alias generators, multiple commands per line, file search paths, full online help and documentation subsystem, error trapping and recovery utilities, command flow control with IF-ELSE-FI testing and GOTO's. When changing directories, resident command and flow control segments are automatically loaded, plus file access protection uses individual directory and WHEEL (global) passwords.

Disk changes are made without manually having to login, and the backup and archiving of files are simplified. Utilities and applications use highlighting, cursor-addressing, and clear screen features from a resident database (TCAP) of 56 computers and terminals including Kaypro, Osborne, Apple, Epson, Televideo, Wyse etc.

Z system features encourage modular, menu-driven application program design. Three such programs have been announced: Discat (file and disk cataloguing, $49.00), Term3 (new generation communications package, $99.00), and an inexpensive ($99.95) document change control manager.

Retail prices start at $39.00 and go to $200.00 for Z80 versions. Software development utilities range from $49.00 to $195.00. (Price for Z800 versions have not been established.) Generous discounts are available for volume users, original equipment manufacturers, and value-added resellers.

Echelon, Inc., 101 First St., Los Altos, CA 94022. (415) 948-3820.

Circle 53 — reader service card.

Software

Finding Things

CP/M users can now retrieve information from computer files even if they don't know where the information is.

Electra-Find retrieves all sentences or paragraphs on a specific topic. You can search for any word or phrase. Each sentence is retrieved along with its file name and location. Results can be saved in a new file or added to an existing file.

All types of files can be searched, including data-base and word processing files. You don't have to change or index files to search them.

You can select different types of searches and output formats from a menu and you can limit searches to selected file types by using wildcards.

Electra-Find runs on Kaypro, Mor-

Continued on page 62.

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New Products *continued from page 61.*

row, Epson, Osborne, and other CP/M computers. Cost is $50 plus tax and shipping.

O'Neill Software, Box 26111, San Francisco, CA 94126. (415) 398-2255).

Circle 56 — reader service card.

Communications

Artisoft, inc. introduced Envoy, a menu-driven communications package. Envoy allows a computer to be used as a smart terminal to access timesharing services or electronic mail such as MCI Mail. Envoy provides high speed file transfers between incompatible or distant computer systems.

Envoy also communicates with public networks such as CompuServe for data retrieval and file transfers. It contains a unique utilities menu which lets you erase, type, copy, rename, and print files with a single keystroke. You can also display, create and remove sub-directories.

Other Envoy features include: menus, terminal mode with large data capture buffer, autodial and autologin capabilities, and the Modem7/Xmodem and ANSI X3.28 file transfer protocols, with error free transfer of text and binary files. It requires less than 9K of disk space.

Artisoft, P.O. Box 41436, Tucson, AZ 85717. (602) 327-4305.

Circle 57 — reader service card.

Terminal Emulation

Mycroft Labs offers a Terminal Emulation Module for its MITE data communication series called MITE+. This module provides a complete set of terminal emulations in a communications package. The MITE+ module enables a computer to emulate approximately ninety-four terminals. The module presents a list of terminals to emulate. You select one and then exit to the MITE main menu and start the log-on procedure.

You can save the terminal emulation selection, phone numbers, baud rates, etc. for future recall. MITE+ is available for over 100 CP/M systems, and several MS-DOS systems, including the IBM PC, XT, and AT.

Mycroft Labs, P.O. Box 6045, Tallahassee, FL 32314. (904) 385-1141.

Circle 58 — reader service card.

Test Writer

EXAM-RITER is a test writing tool designed to help educators write tests containing multiple choice, true/false, or completion questions in any combination or order. The program allows total, free-form construction of questions on an 18 line screen which functions like a simplified word processor. Questions can be changed or deleted at any time.

EXAM-RITER can combine up to

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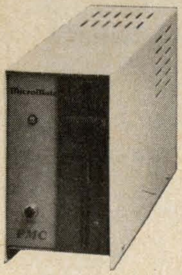

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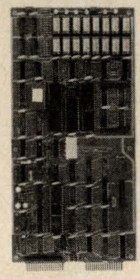

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- **ANIMAL MATH** — basic facts drill in a fun, game setting for grades 1-6. Four programs (addition, subtraction, multiplication, division) each divided into 10 skill levels. $24.95 each or set of four $79.95

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16 short tests into longer exams, print tests and generate answer keys, change the order of the questions each time the exam is printed, allow students to take exams on the computer, score and keep records of all computer administered exams and then let a teacher or student review and analyze answers on every question.

An unlimited number of test disks, each containing a total of 200 questions per $5^{1}/_{4}$" floppy disk, can be written. Hard disk drives (5-10M) can accommodate approximately 2000 questions.

Available for CP/M and MS-DOS, EXAM-RITER sells for $59.95, including manual.

Orange Microware, 4418 E Chapman #311, Orange, CA 92669. (714) 639-8106.

Circle 59 — reader service card.

Bytie Mouse in Number Land

Practicing basic math facts can be fun on the computer through the adventures of Bytie Mouse. Primary age children become actively involved helping Bytie Mouse succeed and avoid disaster by correctly adding, subtracting multiplying or dividing.

The four programs (+, -, x, /), which can be purchased as a set or separately, each contain 5 levels of difficulty from very easy to harder problems. Each level can be repeated many times without boredom, because each time a completely different set of problems of similar difficulty is presented. This variety together with positive reinforcement makes Bytie Mouse in Number Land a valuable classroom or home teaching aid.

Each program comes in a colorful, dust-free, $6^{1}/_{2}$" by 9" plastic box and includes instructions in an illustrated story book about Bytie Mouse.

Available for Kaypro 2x, 4 or 10, Commodore 64, and MS-DOS, the programs cost $29.95 each or $99.95 per four program set.

Orange Microware, 4418 E Chapman #311, Orange, CA 92669. (714) 639-8106.

Circle 60 — reader service card.

Desks, Trees, Menus

Oak Labs announced two low-cost software productivity tools, EZ-DESK and MENUTREE.

EZ-DESK has eight modules: Index Cards and Labels, Calculator with Memory, Message Processing, Appointment Scheduling, Do List Tracking, Phone Directory, Phone Messages, and a Check Book with Check Writer.

MENUTREE is a menu utility for hard disk systems. You can create a master menu of up to 14 commonly used programs and commands. You write the menu item descriptions in plain english. With MENUTREE installed on your hard disk, you need only turn on your computer and select the function or application you wish to run.

EZ-DESK may be purchased as a total system for $49.95, or in individual modules for $15.00 per module. Operating environments include PC-DOS, MS-DOS, CP/M, and CP/M-86.

MENUTREE is designed for DOS based hard disk machines and sells for $19.95.

Oak Labs, P.O. Box 759, Bloomington, IL 61702-0759.

Circle 61 — reader service card.

Writer's Toolbox

Pro/Tem Software announced Footnote and Bibliography. Footnote numbers and formats footnotes or endnotes in WordStar or NewWord text files, and numbers cross references.

You type your document as usual. Wherever you want to put a footnote reference, type a @ (or other symbol of your choice). Enter the text of the footnotes after the paragraphs, at the end of the document, or in any other convenient place. If you ordinarily prepare footnotes after completing the text, you can also enter them into a separate file.

After saving the file, run Footnote. It will number the references and notes consecutively, placing the footnotes at the bottom of the appropriate

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Howard Glosser, *Softalk for the IBM Personal Computer* July '84, pp 120-121

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Jerry Pournelle, *Byte Magazine* April '83, p 234

*"**A marvelous Basic programming aid**. . . It's just amazing to watch a program you wrote run under Scope, and debugging becomes if not trivial, then at least doable"*

Thomas Bonoma, *Microcomputing*, Dec. '83, p 22

*". . . **a really neat utility**. . . designed to untangle even the most convoluted Basic program. . . . The documentation is almost worth the price of the package."*

Susan Glinert-Cole, *Creative Computing*, July '84, p 210

Active Trace will lead you through your program letting you know variable values (all variables or just those you specify) as they change. Your program's internal activity is presented on your screen, or printer, or it can be saved on disk. **It's simple, effective and works with the BASIC you already own.**

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Active Trace is available for most **MS-DOS** and **CPM 2.2** systems and supports the special features of Brand specific versions of Microsoft Basic such as **Basica** on the **IBM-PC**.

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Circle 1 — reader service card.

page, or move them from the manuscript to a separate endnote file. If a footnote is too long to fit on one page, Footnote will carry it over onto the footnote region of the next page.

Footnote produces a standard WordStar file with the footnotes properly numbered and formatted. You can edit, add, modify or delete text and footnotes, and then run Footnote again. It will renumber and reformat the manuscript. It will operate on a file up to 200 pages long with up to 500 notes.

Included with Footnote is Pair, a program which checks that print commands, quotation marks, parentheses and brackets have been properly closed.

Bibliography compares citations in your manuscript with entries in a master bibliography file and constructs a bibliography of all entries cited.

To use Bibliography, you enter books and articles into a master file, either with your word processor or with Pro/Tem's Notebook (database manager). When you prepare a manuscript, enter citations in your usual form and precede each citation with a percent sign. An example could be (see %Bove and Rhodes, 1984). Then run Bibliography. It will compare the citations in your manuscript with the entries in your master file, automatically construct a bibliography of all the works that have been cited, and then print the bibliography to a disk file, so you can incorporate it into your manuscript.

You can create the bibliography in alphabetical order, or in order of citation, with the entries numbered or not. You can include or exclude keynames, annotation, and other items. Bibliography can also modify your manuscript. It can remove the percent sign preceding the citations, copy entries from the master bibliography into footnotes in the manuscript, or replace citations in the manuscript with numbers corresponding to their number in the bibliography.

Bibliography runs under MS/PC-DOS, CP/M, M/PM, and CP/M-86. The MS/PC-DOS and CP/M-86 versions need 128K RAM. The CP/M versions need 62K. Bibliography is compatible with most word processors. It sells for $99.00.

Footnote (including Pair) runs under MS/PC-DOS, CP/M, MP/M, and CP/M-86. The MS/PC-DOS and CP/M-86 versions require 64K RAM. The CP/M version requires 62K. Footnote runs independently of WordStar and does not require modifying the word processor. Footnote sells for $99.00.

Pro/Tem Software, 2363 Boulevard Circle, Walnut Creek, CA 94595. (800) 826-2222.

Circle 62 — reader service card.

Ready To Mail

Maurizi Associates announced version 2.00 of Mailer, a dedicated mailing list manager for the U.S. and Canada. It has pre-structured screen entry forms, label and envelope formats, and reports (it doesn't require you to set up a data base). It runs solely from selection menus and prompts.

Data entry uses a fill-in-the-blanks screen form with a new ditto feature for repeat information. Existing ASCII address files can be read in, as well.

In addition to the usual sorting, selecting, merging and purging features, Mailer can now extract coded records by using AND or OR logic on the coded field.

Mailer also creates ASCII address files which you can merge into form letters using WordStar/MailMerge, NewWord, Microsoft Word, Word Perfect, Spellbinder, Select or Volkswriter Deluxe.

New reports include six different types of pre-formatted listings and printing index or Rolodex cards. Varying length labels can now be printed including one across pre-printed shipping labels as well as standard 3$^1/_2$" wide labels 1-3 across.

Mailer runs on the IBM PC/XT/AT/Portable/jr., most compatibles, and CP/M-80.

Maurizi Associates, 1344 Fitch Way, Sacramento, CA 95864. (916) 486-2993.

Circle 64 — reader service card.

Numbering Lines

Pro/Tem Software announced Number, an outline program which helps with reports, contracts, legal documents and other documents. Number works with most word processors to number paragraphs, sections or other items in a document. You can edit the document as often as you need. Add or remove items, and Number will renumber them consecutively. It also automatically numbers cross-references.

You can choose from seven different numbering styles including letters, outline, and multi-decimal. Number can surround the numbers with parentheses or square brackets, or follow them with a period, close parentheses, or colon.

It can number arabic numbers up to 500; roman numerals up to CCCXCIX (399); letters up to the fifth set (aaaaa, bbbbb); cardinal and ordinal numbers up to 99, and do up to five outline levels. Number is compatible with most word processors.

Number runs under MS/PC-DOS, CP/M, and CP/M-86, and requires a minimum of 64K RAM. It sells for $99.00.

Pro/Tem Software, 2363 Boulevard Circle, Walnut Creek, CA 94595. (800) 826-2222.

Circle 63 — reader service card.

Portfolio Analysis

SOLO is an investment and portfolio analysis software designed for individuals. The package analyzes your personal portfolio of investments. Your portfolio may include your home, other real estate, a money market fund, limited partnerships, mutual funds, a stock portfolio, a bond portfolio, leases, a painting, or any other type of investment.

With SOLO you can do an after-tax analysis of individual investments, or for your portfolio as a whole. Given your current portfolio you can use SOLO to put together a strategic plan of action for your new investments.

Continued on page 70.

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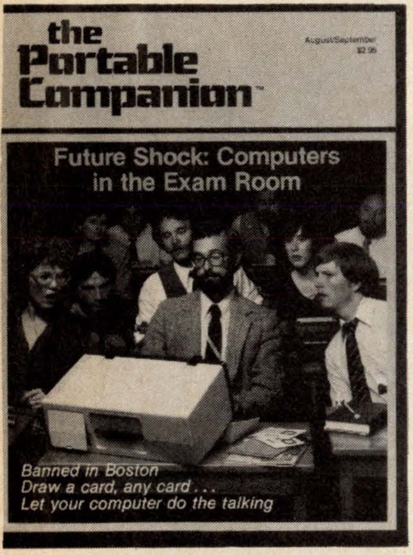
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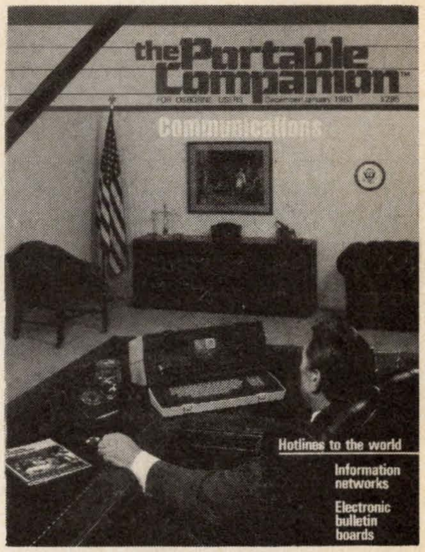
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WordStar Games Your Mother Never Taught You: Part 2

Tricks and techniques for handling correspondence with any word processing program (examples use WordStar).

by Jonathan Sachs

This is the second in a series of articles meant to help you get the most out of WordStar and other word processing programs. The first article appeared in issue #11/12 of *User's Guide* (the double issue). It discussed the use of WordStar for preparing formatted tables.

In this article I share some word processing techniques that help me handle my correspondence quickly and efficiently. I show these techniques in the context of WordStar, but they can be adapted to other word processing programs.

Throughout these articles, the emphasis is on utilizing typical word processing commands, not on the mechanics of using the actual commands. You'll get the most out of them if you are already familiar with your word processing program. You should know how to move the cursor and make insertions and deletions, copy and move blocks of text, set and clear margin indents and tab stops, and use the "Find" and "Replace" commands.

For WordStar information of this sort, see issues #2 and #6 for parts 1 and 2 of the *User's Guide* WordStar tutorial. If you're using another word processing program, see your user's manual.

Formatting a Letter

Business letters have certain consistent elements. From the top down, they are:

- A return address (absent if the letter is printed on letterhead paper) followed by a date.
- The name and address of the person the letter is being sent to.
- A salutation.
- The body of the letter.
- The signature.
- On the envelope the return address (if a letterhead envelope is not used) and the delivery address.

Because of this consistency, you can format your business letters easily by incorporating the unvarying features of the letters in a "skeleton" file, and using that file as a basis for each letter you write.

To start a letter, copy the skeleton file to whatever file you will write the letter in. With WordStar, the most efficient way to do this is to begin editing the letter with the no-file menu's `D` option, then use the "read file" command to read the skeleton file into WordStar's empty workspace. (Enter Control-`KR`, the name of the skeleton file, and press Return.)

Figure 1 shows my own standard letter skeleton file. You can modify this file as necessary to suit the format of your letterhead stationary, and your personal taste.

The only tricky part of entering the skeleton file is the `^C` at the end. It is actually a single character, Control-`C`, stored in the file. You can enter it with the command `^PC` (the ^ symbol stands for Control). We'll discuss its meaning when we are ready to print the letter.

There should be no Return (carriage return shown as ‹ in the far right column of the WordStar screen) after the `^C`. You'll see why in a moment.

Now let's look at the function of each part of the skeleton file in turn.

The first line is a *ruler line*. You can use such a line to set WordStar's margins and tab stops by placing the cursor anywhere on the line and entering the "Set Ruler from Text" command, `^OF`.

```
..--!--------------------------!--------------------------------!
.op


                                   date


xxx



                                   Very truly yours,


                                   Jonathan Sachs



.pa
.po 36
^C
```

Figure 1. *A skeleton file for correspondence printed on letterhead paper.*

Since the cursor is on the ruler line after you read the skeleton file into the workspace, you can set the margins and tab stops by just entering `^OF`.

The ruler line shown in Figure 1 sets the margins in columns 1 and 65, with tab stops in columns 5, 32, and 65. If you prefer other settings, you can get them by making the obvious changes in the ruler line. (For a fuller discussion of ruler lines, see the section "Setting Up the Tab Stops and Margins" in part 1 of this series — issue 11/12.)

Using the skeleton will save you 30 to 60 seconds every time you write a letter.

Since the first two characters of this ruler line are periods, the ruler line is also a comment line; it may be left in the file, and will not print. If you don't intend to edit the file again, though, you may delete the ruler line after setting the margins and tab stops.

The second line contains an `.OP` ("omit page number") command. When the letter is printed, this command makes WordStar omit the page number that it normally prints at the bottom of each page of a document.

To summarize what we've done so far: after starting to edit a new letter file, you can enter the following WordStar commands to copy your skeleton file into the empty workspace, set the margins and tabs, and delete the ruler line:

`^KR skeleton.fil ⊃`
  This WordStar command "reads" the skeleton file into the workspace. (The ⊃ symbol stands for the Return key).

`^OF` Set the ruler line for the workspace with this command.

`^Y` Now delete the ruler line from the skeleton file.

Now let's return to the skeleton file shown in Figure 1. The word `date` is just a placeholder for the date. It is preceded by several blank lines to put it in an attractive position below your letterhead imprint. Move the cursor to the word `date` and replace it with the actual date:

`^F^F^F...`
  Type as many `^F`s as needed to move the cursor to `date`.

`^T` Delete the word `date`.

`January 15, 1985`
  Enter the date in place of the word `date`.

The word `xxx` is a placeholder for the addressee's name and mailing address. Again, move the cursor to the word and replace it with the actual name and address of the person the letter is going to. Then enter the salutation:

`^F^F` Move the cursor to the placeholder.

`^T` Delete the next word.

`User's Guide` Enter the address...
`Box 5245`
`Redwood City, CA 94063`
`Dear Sirs:`
  ...and the salutation.

The next thing before you is the place where the body of the letter will go. Restrain yourself for a moment, though, and look at the rest of the skeleton.

The signature part of the skeleton is fixed: there's your preferred form of closing, followed by some blank lines for your signature, followed by your name. A `.PA` ("new page") command ends the letter.

The `.PO 36` command and the `^C` will help you print the envelope correctly; we'll return to them in a moment. Right now you should put the addressee's name and mailing address at the end of the letter, after the `^C`, so that the end of the letter looks like Figure 2.

```
.pa
.po 36
^CUser's Guide
Box 5245
Redwood City, CA 94063
```

Figure 2. *How the end of the file looks after the address is copied.*

Since you've already entered the address once, you can copy it rather than type it in again. Copying the address is a four-step process:

1. Put the cursor on the first char-

acter of the addressee's name, above the salutation. Enter the "mark start of block" command, `^KB`.

2. Put the cursor after the last character of the address and enter the "mark end of block" command, `^KK`. You've defined the block of text that you will copy.

   Note: you'll find the "move cursor to end of line" command, `^QD`, useful for moving the cursor to the end of the last line.

3. Move the cursor to the end of the file (enter `^QC`) and enter the "copy block" command, `^KC`. WordStar copies the name and address after the `^C`.

   Note: if there was a Return (carriage return) after the `^C`, you'd have to move the cursor back from the end of the file to the position after the `^C`. Since there is none, `^QC` puts the cursor right where you want it.

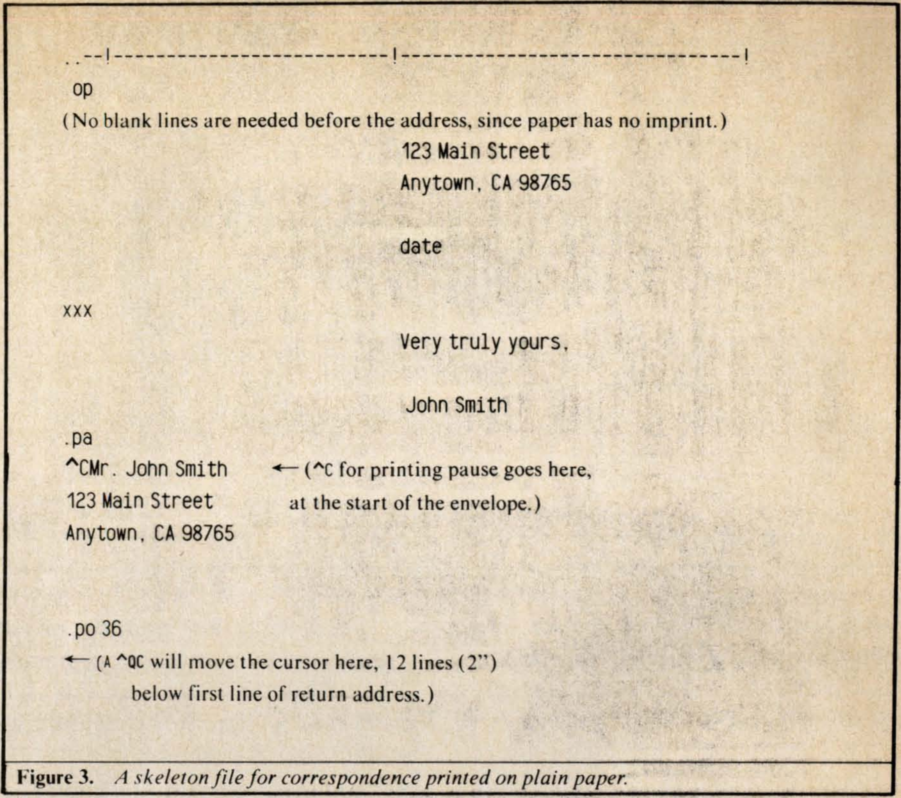
4. Optional: enter the "hide block" command, `^KH`, to remove the highlighting that WordStar uses to show the limits of a marked block on most computers' displays.

Now you can move the cursor back to the first page and start entering the body of your letter.

Printing the Letter

Before you start printing your letter, check the position of the closing lines. If they fall over a page break, insert a "new page" command (`.PA↵`) to force the last few lines of the body of the letter onto a new page.

You can also use the "conditional page" command in WordStar. The `.CP n↵` command means "start a new page if there are fewer than `n` text lines remaining on the current page." For example, the command `.CP 5↵` starts a new page if there are fewer than five text lines remaining on the current page.



```
..--!--------------------------!--------------------------------!
 op
(No blank lines are needed before the address, since paper has no imprint.)
                              123 Main Street
                              Anytown, CA 98765

                              date

xxx
                              Very truly yours,

                               John Smith
.pa
^CMr. John Smith     ← (^C for printing pause goes here,
123 Main Street        at the start of the envelope.)
Anytown, CA 98765


.po 36
← (A ^QC will move the cursor here, 12 lines (2")
      below first line of return address.)
```

Figure 3. *A skeleton file for correspondence printed on plain paper.*

Save the file. Then roll a sheet of letterhead paper into the printer. Align the upper left corner of the sheet with the print head.

Select the print option from WordStar's no-file menu (`P`) and enter your letter's file name. If your letter is only one page long, you may end the file name by pressing the ESC (Escape) key instead of the Return key. WordStar will print the file without asking you a half-dozen unnecessary questions. (We'll return to the problem of a multi-page letter in a moment.)

After you print the letter, you must print the envelope. This presents three problems:

1. Making WordStar stop after printing the letter so that you can insert the envelope.

2. Inserting the envelope so that the address is printed roughly halfway between the top and bottom.

3. Making WordStar print the address in the center of the envelope, not near the left edge.

This is where the `.PO 36` command and the `^C` in the skeleton file come in handy.

The `^C` solves the first and second problems by making WordStar pause at this point when printing the file. The pause lets you roll an envelope into the printer and position it by hand. Then you can press the `P` key at the no-file menu (or enter `^KP` if you're already editing another file) to make WordStar resume printing.

The `.PO 36` ("page offset") command solves the third problem by making WordStar indent the address 36 spaces from the nominal edge of the envelope, rather than the default of 8 spaces. This puts the address roughly in the center of a legal size envelope.

Since the `.PO 36` precedes the `^C`, WordStar moves the printer's print head to the center of the envelope (on most letter quality printers) *before* pausing to let you insert the envelope. Thus you can see where the address will be printed as you adjust the envelope's position. If you're concerned about the precise location of the address, the first character will be printed one space *after* the paused position of the print head.

Printing a Multi-Page Letter

If your letter is more than one page long, you must tell WordStar to stop at the end of each page while you insert a new sheet of paper. End the file name by pressing Return, not ESC (Escape). Work through the list of questions that WordStar presents, and answer the question `Pause for paper change between pages?` with `Y`. At the end of each page, insert a new sheet of paper and press the `P` key again to make WordStar resume printing.

In this case you get *two* pauses before the envelope: one from the pause between pages, and a second from the `^C` in the file. The `.PO 36` command takes effect *after* the first pause. You can save a keystroke by eliminating the `^C`, but then you won't have a chance to see exactly where the address will be printed before WordStar starts printing it.

If You Don't Have Letterhead Paper

If you're printing on plain paper, include your return address in the first part of the skeleton, and again in the envelope part.

Arrange the skeleton file so that a mailing address added at the very end will be positioned properly on the envelope. Figure 3 shows how such a skeleton file might look.

Isn't This an Awful Lot of Trouble?

The procedure we've just described may look complicated, but it's just a way of minimizing the keystrokes needed to do things you must do anyway. If you don't use a skeleton file, you must type each part of every letter by hand. Using the skeleton will save you 30 to 60 seconds every time you write a letter.

Equally important, the skeleton ensures that every letter you type will be formatted consistently. If you type letters "from scratch," you must make a conscious effort to format every letter the same way. When you don't succeed, you may have to print a letter or envelope more than once because it didn't come out the way you expected.

Keeping Track of Correspondence

For many people, keeping records of correspondence is as important as writing it. Your computer can help you with this task as well.

The way you organize your files is an intensely personal matter, and is influenced by the way you will use them. I keep all of my correspondence in chronological order. This is the simplest arrangement, and so accommodates unforeseen situations more readily. However, if most of your correspondence concerns work you do for various clients, you may wish to keep each letter on a disk set aside for files that concern that client. Other kinds of organization might be well suited to other needs.

You can organize your correspondence (and other files as well) with a disk organizing program like EUREKA! or CATALOG. Such a program creates a list of the files on a disk, and permits you to annotate the list with such information as a description of contents and the date of creation. (See issue #11/12 of *User's Guide* for a review of EUREKA! and CATALOG.)

But you can also keep track of correspondence "by hand." This approach requires a little more effort than using a disk organizing program, but it has an important advantage: it can accommodate incoming letters as well as outgoing ones, even though they generally never make their way into disk files.

If you decide to organize your correspondence by hand, you should use a file naming convention to help you keep track of your files. Every letter file you create should have a file name like this one:

```
85-01-15.UG
```

The first part of the name gives the date of the letter: year first, then month, then day. The last part gives the initials of the person or organization the letter is addressed to (or received from).

The unusual "year, month, day" order of date has a purpose: if you print a directory listing of letter files in alphabetic order, the listing will also be in chronological order! You can print such a listing like this:

`STAT B:*.* ↵`
— In CP/M-80, MP/M-80, CP/M-86, or MP/M-86.

`SDIR B: ↵`
— In MP/M-86, Concurrent CP/M-86, or Concurrent DOS.

`DIR ¦ SORT ↵`
— In PC DOS or MS DOS.

A consistent way of naming files makes it easier to look at a file's name and remember what is in the file. It also helps you remember the file names of letters you've written in the past few days, enabling you to find recent correspondence easily.

Sometimes, though, you need to retrieve an old letter, or locate the last letter you wrote to somebody without knowing when you wrote it. For those times, you should maintain a catalog of correspondence in a disk file. You can maintain this file with your word processing program.

Figure 4 shows a typical correspondence file. It is kept in chronological order. Each entry names the addressee and gives a brief description of the contents.

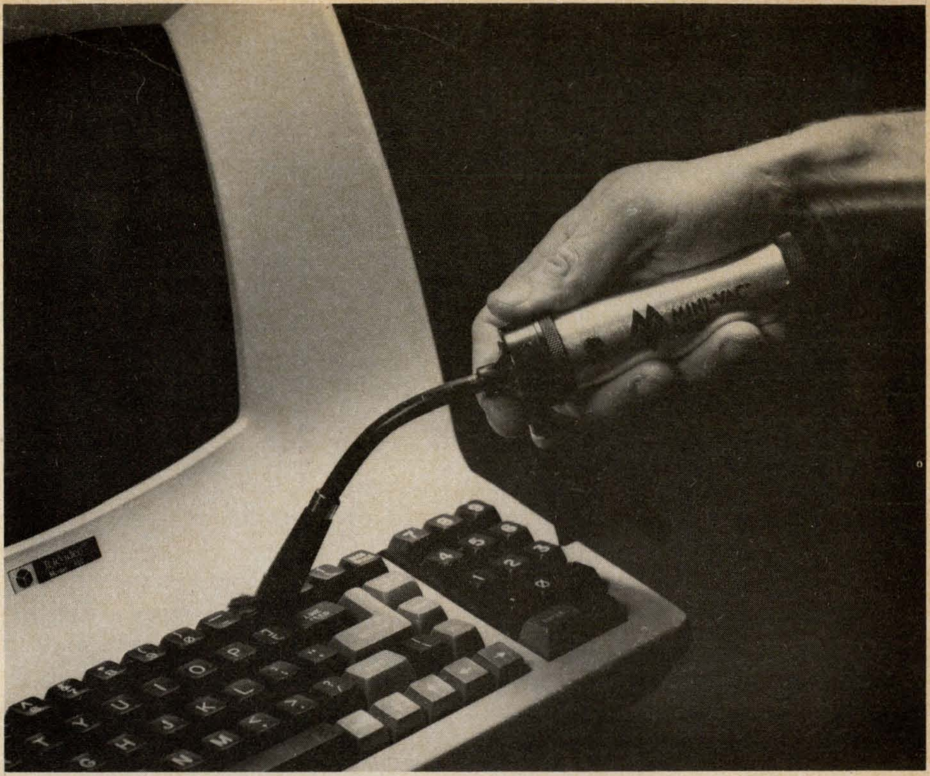
```
CORRESPONDENCE INDEX

85-01-15.ug     User's Guide, inquiry about dealer rates.
85-01-15.ppi    Purple Prose Inc., Jim Watanabe, comments on CAI.
85-01-18.cs     CompuSchlock, Iago Chutzpah, disk drive problems; sue them?
```

Figure 4. *Format of a correspondence disk index.*

The description may be no more than a list of important words, as in the third line in Figure 4. The important thing is to include any word that you might recall when you want to retrieve this letter. By editing the catalog file and doing a "Find" (`^QF` in WordStar), you can locate that word, and so locate the proper catalog entry and find the name of the file. If your computer's disk drive is reasonably fast, this method of retrieving correspondence is exceedingly quick. Since I began using it, I have never felt the need to print my catalog files.

If you write correspondence on a hard disk and archive it on floppies, keep the catalog file on the hard disk. Back it up on the correspondence disk each time you archive a letter file. When you fill a floppy disk and must start a new one, you may wish to start a new catalog file too; but keep the old one on the hard disk for reference, at least for a few months.


Paul Winternitz

The Mini-Vac is an AC/DC-powered mini vacuum cleaner for tight spots.

New Products *continued from page 64.* The facility for "what if" analysis is built into SOLO so that you can create target portfolios by adding different combinations of new investments to your existing portfolio.

The analysis is based on the investment information that you enter, and your tax bracket. SOLO calculates the after tax "rate of return" and "net present value" on individual investments and for the whole portfolio. Using the portfolio's rate of return, SOLO provides a graphic display of projected values for the portfolio for the next 30 years. SOLO can analyze problems such as should you buy a car or lease it.

SOLO runs on the IBM PC (128K RAM), and CP/M systems (64K RAM), and requires one disk drive. The package costs $90 (includes a user's guide with examples). A Demo disk with the user's guide is available for $40 (California residents please add $2.28 sales tax for the Demo).

Financiometrics Inc., PO Box 1788, Lafayette, CA 94549. (415) 376-9455.

Circle 65 — reader service card.

Accessories

Two Low-cost Daisywheel Printers

Xerox Corp. introduced a 25 character-per-second letter quality printer priced at $745. The new printer called the Xerox/Diablo Advantage D25 Daisywheel printer, is designed for heavy office use. The D25's All-Purpose Interface allows it to be connected via serial or parallel interfaces. Among the features of this printer are automatic proportional spacing, automatic carriage returns, and automatic bi-directional printing. In addition, the D25 offers variable line and column spacing, and automatic paper loading.

The D25 accommodates a bidirectional tractor and single-bin sheet feeder; hardware and software for these accessories are already built in. The single-bin feeder is priced separately at $495.

Xerox Corp., Xerox Square 006, Rochester, NY 14644. (716) 423-5078.

Circle 66 — reader service card.

Vacuum Cleaner

A new tool for Micro-Cleaning was announced by Mini-Vac, Inc. The Mini-Vac is a light-weight vacuum cleaner that is designed to remove minute particles of dust and debris from hidden or hard to reach areas. Unlike compressed air, which simply disperses the pollutants, Mini-Vac vacuums them permanently away.

Mini-Vac is equipped with two interchangeable wands, two fine bristle brushes, a cloth vacuum bag and it can be DC or AC powered. It can clean delicate areas including cameras, computers, stereo and video equipment, art/crafts, hobbies, typewriters, electronics, drafting, automobiles, tape decks, records, negatives, lenses, jewelry, projectors, turntables, and keyboards. It is compact, portable, versatile and priced at $29.95 with a ninety-day guarantee.

Mini Vac, Inc., 217 S Orange St. Suite 4, Glendale, CA 91204 (818) 244-6777.

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Sol Libes says...

"Call me crazy ...I'm doing it again!"

I'm back into magazine publishing ... something I swore I would never do again. When Microsystems magazine died I was in a depressed state for weeks. Countless letters and phone calls from devoted subscribers made it even worse. Everyone kept urging me to do it again.

I kept remembering what my wife Lennie and I went through when we started Microsystems, and I said no ... not again ... we want to live a normal life again. But there has been something missing from my life the last several months. The passing of Microsystems left a void. Let's face it, there really is no other magazine that caters to the advanced micro user the way Microsystems did.

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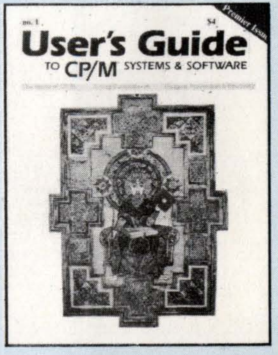
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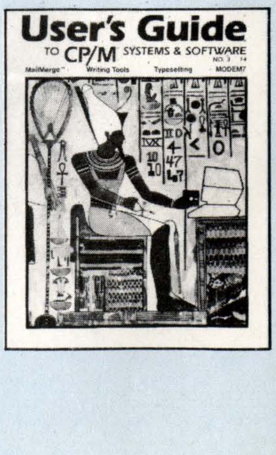
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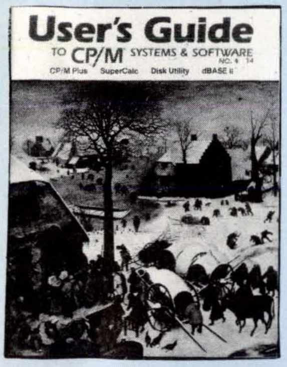

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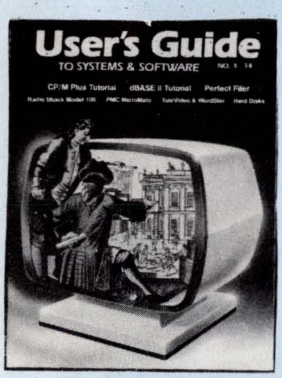

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BOOKS/John Barry

1984 In Review

Nineteen eighty-four saw a decrease in the number of computer books published, but it produced a relative rash of historical, sociological, and ontological books about computer-related phenomena.

History is Hot

Bob Hoskins, the system manager at *InfoWorld* magazine, once remarked that 1984 was "the year of the computer history book." He had a point.

The seminal work in the genre is *Fire in the Valley* by Paul Freiberger and Michael Swaine. Although its publisher, Osborne/McGraw-Hill, reportedly gave it virtually no initial promotion or support, it became an immediate best-seller in the San Francisco Bay Area, the home of its authors and the venue for much of the book.

Freiberger and Swaine spent nearly two years researching the history of the personal computing drama and interviewing the key players. The result is an affectionate look at personal computing, from the days of the Altair in the mid-70s, up to the introduction of the Macintosh in early 1984.

The Cognitive Computer
ROGER C. SCHANK
THE SECOND SELF
COMPUTERS AND THE HUMAN SPIRIT
SHERRY TURKLE
DIGITAL DELI
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Paul Winternitz

The subtitle of *Fire in the Valley* is "The Making of the Personal Computer," but its focus is really the people who shaped the first decade of personal computing.

More comprehensive in its treatment of computer history is *Hackers, Heroes of the Computer Revolution* by Steven Levy. The book's subtitle is "humanistic," while that of *Fire in the Valley* is "mechanistic," yet Levy's book is essentially a dispassionate study of a culture. Levy traces the evolution of hackers and hacking through three generations: True Hackers (MIT in the 50s and 60s), Hardware Hackers (Northern California in the 70s), and Game Hackers (game companies in the 80s).

Hackers is as much an anthropological study as it is a history. Levy functioned as a sort of Margaret Mead of computing, spending two years among the hackers to compile his study. The result could be described as "coming of age in hackerdom."

The book produces a sense of wistfulness as it slowly watches the unraveling of the Hacker Ethic—all information should be free, authority should be mistrusted, decentralization should be promoted, and money should be a necessary annoyance.

By the 1980s, what started as an offshoot of the Tech Model Railroad Club at MIT and spawned a mentality of pro-

Copyright © 1985 John Barry

gramming for the sake of programming had become big business. Still, Levy writes, a spark of the Hacker Ethic lives on even today.

If *Hackers* is a macrocosm of personal computing and *Fire in the Valley* covers an era, *The Little Kingdom, The Private ["unauthorized"] Story of Apple Computer* by Michael Moritz is a microcosm. Like Levy, Moritz spent a lot of time among the people about whom he writes. He chronicles the turbulent history of Apple, from its founding in the now-famous garage to the introduction of the Macintosh.

Like the other two "history" books, *The Little Kingdom* shows what can happen when computing goes from being fun to being business. Even after Apple went public and hit the big time, it still tried to promote an image of informality and free-spirited innovation. Moritz reveals that all the hallmarks of corporate culture—turf battles, backstabbing, committee decisions—as well as ruthlessness and arrogance lurked behind the facade.

In Apple's case, according to Moritz, "the company became intrigued with the notion of empire, and an aggressive conceit threatened to unravel much of the earlier success."

Structurally, *The Little Kingdom* suffers a similar fate. As the book begins to dwell on corporate conniving, it begins to drag. Another structural problem is vignettes about the development of the Macintosh that are interwoven in the narrative. This technique seems like an afterthought.

Overall, *The Little Kingdom* effectively explodes the myth that Silicon Valley companies are laid-back democracies whose employees all lounge in hot tubs and do aerobics at the company fitness center.

The Social Scene

To paraphrase an old joke: Q—What's the difference between Silicon Valley and yogurt? A—Yogurt has culture.

According to Judith K. Larsen and Everett M. Rogers, authors of *Silicon Valley Fever*, Silicon Valley indeed has a culture — the culture of high technology.

Silicon Valley Fever examines motivations of high tech's denizens and explores the social costs of high-technology culture.

The sociological and psychological ramifications of computer use are the subject of Sherry Turkle's *The Second Self*. Turkle believes that for many people, the computer has become a "second self"—primarily because it gives the illusion of being able to replicate the process of thinking.

In Turkle's view, the people who gravitate to the notion of a computer as an alter ego tend to be hackers or artificial-intelligence aficionados; she had ample opportunity to study both camps at MIT, where she is a psychologist/sociologist. A much larger group of people views the computer as a tool with which to perform tasks.

Turkle spends a lot of time in the book gauging children's reactions to computers, and by doing so, raises compelling questions. For the first time, an entire generation is being weaned on computers. Their responses to the devices will have an inevitable influence on the way they view themselves and society in the near future.

The author's academic background shows up in her writing, which tends to be a bit dry, but she has provided an exhaustive set of bibliographic footnotes for readers who want more information about computers and cognition.

Metaphysics

Cognitive computers (aka "artificial intelligence") are the nominal focus of Yale computer scientist Roger Schank's *The Cognitive Computer*. According to Schank, some members of the AI community have reshuffled Descartes: *sum ergo cogito*—and then taken bilingual liberties and translated their creation "I sum, therefore I think."

Early AI efforts, Schank says, concentrated on replicating mathematical and logical thought because these processes were deemed the only critical elements of human intelligence. Such efforts are product-directed, or technological.

Schank belongs to the theory-directed, or scientific, approach to AI, and his goal is nothing less than teaching computers to think, using all the nuances, inferential qualities, and memories that constitute human intelligence. He believes that such computers will exist within the next century.

The idea is inspiring; the book is not, and its *raison d'etre* is elusive.

A much more intriguing and engrossing book about artificial intelligence is *Into the Heart of the Mind* by Frank Rose. (Its major drawback is that it has *no index.*) Rose examines AI efforts on the West Coast—specifically at the University of California at Berkeley. He portrays a difference in the approaches to AI as practiced on the East and West coasts. "In AI at Berkeley, mind and computer are inextricably linked ... AI at Berkeley means natural-language processing and common-sense reasoning." Yet the Berkeley approach has been influenced by Roger Schank, one of the pivotal characters in *Into the Heart of the Mind.*

Rose shares Schank's assessment of AI: The phenomenon is still in its infancy.

Other Offerings

Not all of the year's offerings were so serious. For fun and intermittent consumption, *Digital Deli* is hard to beat. The book is an offshoot of the "Lunch Group" in New York. Edited by Steve Ditlea, the book is eminently consumable.

Its big bold design harks back to *Zap!* comics and the early days of the *National Lampoon.* Since it's eclectic, it won't all be to everyone's taste, but most of its tidbits are entertaining and informative.

The Computer Entrepreneurs is the brainchild of the same folks who brought you *The 100 Best Companies to Work for in America. Entrepreneurs* amounts to 65 extended "Dewar's Profiles" of computer entrepreneurs such as Nolan Bushnell and Gary Kildall.

The book is witty and informative, but the research is sometimes flawed. High-tech Yuppies will love this book.

Fire in the Valley by Paul Freiberger and Michael Swaine. Osborne/McGraw-Hill, 1984. 288 pages, paperback.

Hackers by Steven Levy. Anchor Press/Doubleday, 1984. 458 pages, hardcover. $17.95.

The Little Kingdom by Michael Moritz. William Morrow and Company, 1984. 336 pages, hardcover. $16.95.

Silicon Valley Fever by Everett M. Rogers and Judith K. Larsen. Basic Books, 1984. 302 pages, hardcover. $19.95.

The Second Self by Sherry Turkle. Simon and Schuster, 1984. 362 pages, hardcover. $17.95.

The Cognitive Computer by Roger C. Schank, with Peter G. Childers. Addison Wesley, 1984. 268 pages, hardcover. $17.95.

Digital Deli by The Lunch Group and Guests, edited by Steve Ditlea. Workman Publishing, 1984. 382 pages, paperback. $12.95.

The Computer Entrepreneurs by Robert Levering, Michael Katz, Milton Moskowitz. New American Library, 1984. 481 pages, hardcover. $24.95

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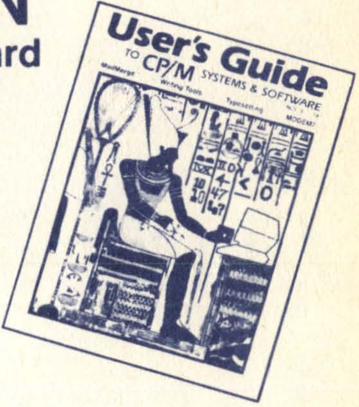

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l. ☐ Compaq
n. ☐ Columbia
p. ☐ PC-compat.

F. Where do you use your computer?
1. ☐ Small business
2. ☐ Profession
3. ☐ School/training
4. ☐ Construction
5. ☐ Medium business
6. ☐ Home
7. ☐ Corporation
8. Other: ________________

B. Occupation?
1.☐ Executive/manager
2.☐ Small bus. owner
3.☐ Professional
4. ☐ Other

D. Interested in which software?
a. ☐ Word processing
c. ☐ Communications
e. ☐ Medical/Dental
g. ☐ Other vertical
b. ☐ Accounting
d. ☐ Data base mgmt.
f. ☐ Financial planning
h. ☐ Scientific

E. Interested in which products?
a. ☐ Printers
c. ☐ Hard disks
e. ☐ Information services
b. ☐ Modems
d. ☐ Publications
f. Other: ____________

G. Your immediate need?
1. ☐ Adding peripherals to present system
2. ☐ Upgrading system performance
3. ☐ Using information/communications services
4. ☐ Supplies and accessories

Name ________________________________ **Age** ________ **Sex** _____

Company ________________________ **Title** ________________________

Address ________________________ **City, State, Zip** ________________________

UG *14*

FREE INFORMATION
User's Guide Reader Service Card

Each advertisement and product announcement in this issue has a reader service number. To receive mail from the manufacturer, simply circle the same number on this reader service card, and drop the card in the mail. Your name and address is sent on to the appropriate manufacturer, who sends the information.

The service helps you get detailed information about products you may want to purchase. *User's Guide* does not sell or recommend products associated with this service.

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51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75
76 77 78 79 80 81 82 83 84 85 86 87 88 89 90 91 92 93 94 95 96 97 98 99 100

Please complete:
Are you a subscriber? ☐ Yes ☐ No

A. Your computer experience?
1.☐ Novice 3.☐ Intermediate-advanced
2.☐ Semi-intermediate 4.☐ Advanced

C. Use which computer(s)?
a. ☐ Apple
c. ☐ CompuPro
e. ☐ Osborne
g. ☐ Radio Shack
i. ☐ TeleVideo
k. ☐ Kaypro
m. ☐ Morrow
o. ☐ ________________
b. ☐ IBM PC
d. ☐ DEC
f. ☐ S-100
h. ☐ Heath/Zenith
j. ☐ Sanyo
l. ☐ Compaq
n. ☐ Columbia
p. ☐ PC-compat.

F. Where do you use your computer?
1. ☐ Small business
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3. ☐ School/training
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6. ☐ Home
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G. Your immediate need?
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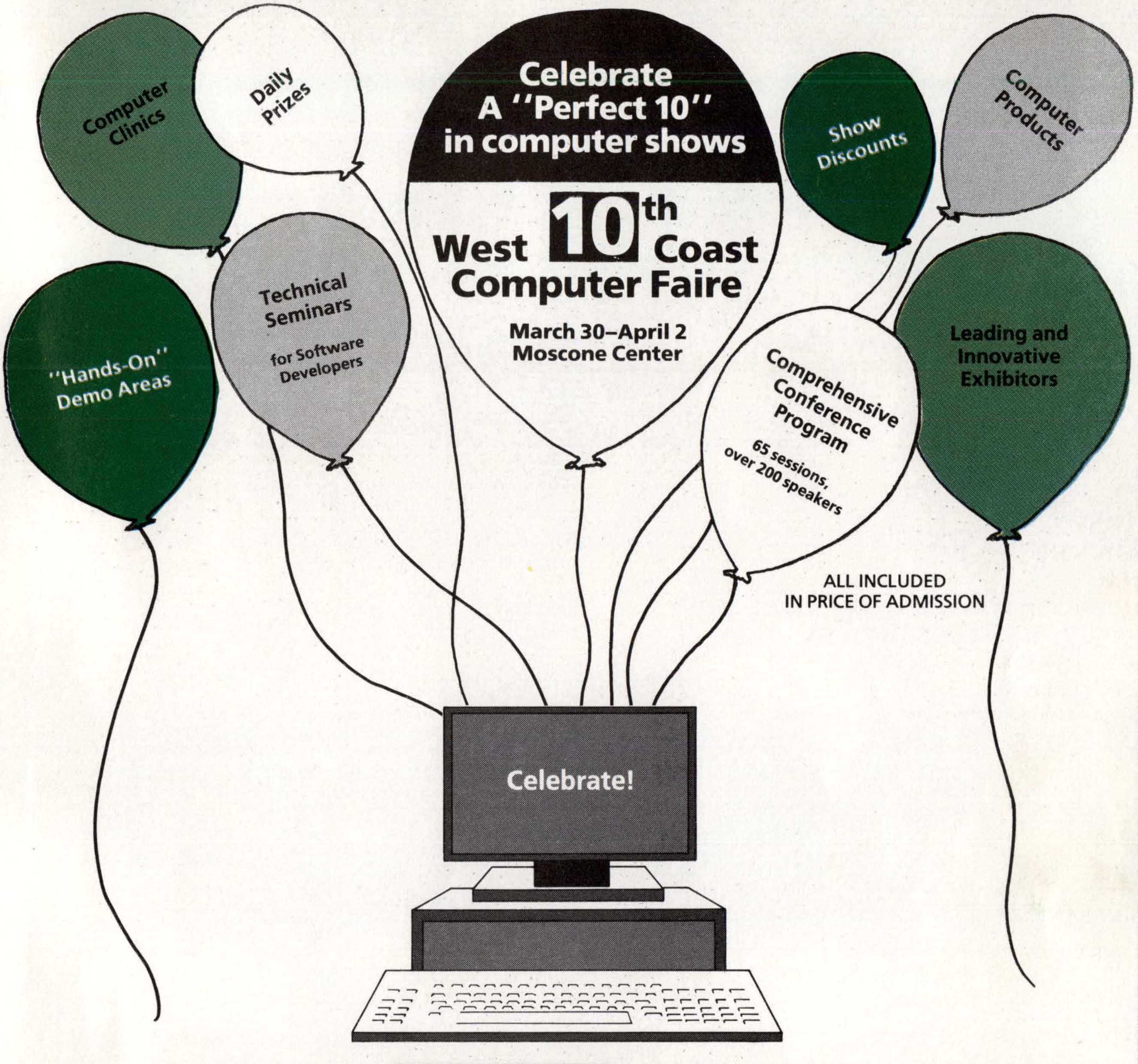
3. ☐ Using information/communications services
4. ☐ Supplies and accessories

Name ________________________________ **Age** ________ **Sex** _____

Company ________________________ **Title** ________________________

Address ________________________ **City, State, Zip** ________________________

UG 14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65 sessions, over 200 speakers
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THE 10TH WEST COAST COMPUTER FAIRE

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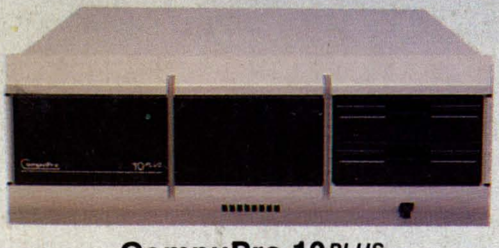
Think CompuPro.



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"... a coherent, relatively easy to use [multi-user] system with an impressive amount of power for the money and good support... alternative to stand alone—or even networked—computers, the CompuPro 10 has a lot going for it."

Personal Computing, 12/84

$7995.00 suggested list with 40 Mb hard disk

CompuPro
286

CompuPro 286

A faster version of our multi-user Model C, of which a recent review states "... hardware is high quality ... large software base... hundreds of serious business programs... versatility and adaptability to future hardware and software developments are unmatched..."

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To arrange a demonstration, call **1-800-367-7816** (in California, **1-415-786-0909**).

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